



Prof Colin Bailey CBE, FREng, BEng, PhD, CEng, FICE, FIStructE, MIFireE

School of Engineering and Materials Science Queen Mary University of London Mile End Road London E1 4NS

tel: +44 (0)20 7882 3696 email: principal@qmul.ac.uk web: www.sems.qmul.ac.uk/principal

2024

Digital Image Processing Applied in the Deformation Analysis of Hip Prosthesis: Multivariate Regression Analysis.

Ramos-Frutos J, Miguel-Andrés I, Oliva D, Pérez-Cisneros M, Alonso-Rasgado T, Bailey CG and del Valle-Mojica JF. IEEE Access vol. 12, 176938-176948. Institute of Electrical and Electronics Engineers (IEEE).

2021

Modeling and Simulation of Fabricated Graphene Nanoplates/Polystyrene Nanofibrous Membrane for DCMD. Abdullah A, Al-Qahatani A, Alquraish M, Bailey C, El-Shazly A and El-Mofty S. Polymers vol. 13, (17). Mdpi.

Analysis of the robustness of a steel frame structure with composite floors subject to multiple fire scenarios. Suwondo R, Cunningham L, Gillie M and Bailey C. Advances in Structural Engineering vol. 24, (10) 2076-2089.Sage Publications.

2020

Fire Safety Assessment of Epoxy Composites Reinforced by Carbon Fibre and Graphene. Zhang Q, Wang YC, Soutis C, Bailey CG and Hu Y. Applied Composite Materials vol. 27, (5) 619-639. Springer Nature.

2019

Performance evaluation of surgical techniques for treatment of scapholunate instability in a type II wrist. Alonso-Rasgado M, Bailey C, Leonardo-Diaz R, Jimenez-Cruz D and Talwalkar S. International Journal For Numerical Methods in Biomedical Engineering. Wiley.

Quantification of gas permeability of epoxy resin composites with graphene nanoplatelets. Zhang Q, Wang YC, Bailey CG, Istrate OM, Li Z, Kinloch IA and Budd PM. Composites Science and Technology vol. 184..Elsevier.

Economic feedback model predictive control of wave energy converters. Zhan S, Li G and Bailey C. IEEE Transactions On Industrial Electronics 1-1. Institute of Electrical and Electronics Engineers (IEEE).

Corrigendum to Punching behaviour of column-slab connection strengthened with non-prestressed or prestressed FRP plates [Eng. Struct. 160 (2018) 229242]. Abdullah A and Bailey CG. Engineering Structures vol. 187, Elsevier.

Effect of femoral head size, subject weight and activity level on acetabular cement mantle stress following total hip arthroplasty.

Del-Valle-Mojica JF, ALONSO-RASGADO MT, Jimenez-Cruz D, BAILEY C and Board T. Journal of Orthopaedic Research.Wiley.

Impact of femoroacetabular impingement and dysplasia of the hip on hip joint sphericity.

BAILEY CG, Diaz-Lopez R, Alonso-Rasgado T, Jimenez-Cruz D and Board T. Hip International.Sage Publications.

A fate-alternating transitional regime in contracting liquid filaments.

Wang F, Contò FP, Naz N, Castrejn-Pita JR, Castrejn-Pita AA, Bailey CG, Wang W, Feng JJ and Sui Y. *Journal of Fluid Mechanics vol.* 860, 640-653.

Progressive collapse analysis of composite steel frames subject to fire following earthquake.

Suwondo R, Cunningham L, Gillie M and Bailey C. Fire Safety Journal vol. 103, 49-58. Elsevier.

2018

Cement interface and bone stress in total hip arthroplasty: Relationship to head size. Alonso-Rasgado T, Del-Valle-Mojica JF, Jimenez-Cruz D, Bailey CG and Board TN. *Journal of Orthopaedic Research vol. 36*, (11) 2966-2977.

Improving the performance of composite floors subjected to post-earthquake fire. BAILEY CG, Suwondo R, Cunningham L and Gillie M. *Fire Safety Journal.Elsevier.*

Driel 1 CO, Suwondo K, Cummignan E and Onne W. 1 We Sujery yournat. Elsevier.

Failure criterion of an asphalt mixture under three-dimensional stress state. Huang T, Zheng JL, Lv ST, Zhang JH, Wen PH and Bailey CG. *Construction and Building Materials vol. 170,* 708-715.

The thermal analysis of cutting/grinding processes by meshless finite block method. Yang JJ, Wang ZX, Adetoro OB, Wen PH and Bailey CG. *Engineering Analysis With Boundary Elements*.

Quantifying effects of graphene nanoplatelets on slowing down combustion of epoxy composites. BAILEY CG, Zhang Q, Wang Y, Yuen R, Parkin J, Yang W and Valles C. *Composites Part B*.

Moving boundary analysis in heat conduction with multilayer composites by finite block method. WEN P, BAILEY CG, Lei M and Li M. *Engineering Analysis With Boundary Elements.Elsevier.*

Effect of earthquake damage on the behaviour of composite steel frames in fire. BAILEY CG, Suwondo R, Gillie M and Cunningham L. *Advances in Structural Engineering.Sage Publications.*

WITHDRAWN: Sphericity of the hip joint components for subjects with femoroacebular impingement and dysplastic hips.

Diaz-Lopez RA, Alonso-Rasgado MT, Jimenez-Cruz D, Bailey CG and Board TN. Journal of Orthopaedics. Elsevier.

Punching behaviour of column-slab connection strengthened with non-prestressed or prestressed FRP plates. Abdullah A and Bailey CG. *Engineering Structures vol. 160, 229-242.Elsevier.*

2017

How solid surface free energy determines coalescence-induced nanodroplet jumping: A molecular dynamics investigation.

SHENG Q, SUN J, WANG W, WANG HS and BAILEY CG. *Journal of Applied Physics vol. 122*, 245301 (2017), *Aip Publishing*.

Grain size effects on indentation-induced plastic deformation and amorphization process of polycrystalline silicon.

Fan J, Li J, Huang Z, Wen PH and Bailey CG. Computational Materials Science vol. 144, 113-119.

Analysis of tenodesis techniques for treatment of scapholunate instability using the finite element method. Alonso Rasgado T, Zhang Q, Jimenez Cruz D, Bailey C, Pinder E, Mandaleson A and Talwalkar S. *International Journal For Numerical Methods in Biomedical Engineering vol. 33, (12).*

Evaluation of the performance of three tenodesis techniques for the treatment of scapholunate instability: flexion-extension and radial-ulnar deviation.

Alonso-Rasgado T, Zhang QH, Jimenez-Cruz D, Bailey C, Pinder E, Mandaleson A and Talwalkar S. *Medical and Biological Engineering and Computing 1-15.*

2016

Failure Analysis Following Osteochondroplasty for Hip Impingement in Osteoporotic and Non-Osteoporotic Bones.

Cruz D J, Rasgado MT A, CG B and TN B. Journal of Osteoporosis and Physical Activity vol. 04, (04).

Non-destructive evaluation of residual compressive strength of post-heated reinforced concrete columns. Yaqub M and Bailey CG. *Construction and Building Materials vol. 120, 482-493.*

2013

Tests investigating the punching shear of a column-slab connection strengthened with non-prestressed or prestressed FRP plates.

Abdullah A, Bailey CG and Wu ZJ. Construction and Building Materials vol. 48, 1134-1144. Elsevier.

Modelling basalt fibre reinforced glass concrete slabs at ambient and elevated temperatures. Borhan TM and Bailey CG. *Materials and Structures vol.* 47, (6) 999-1009.Springer Nature.

Structural behaviour of basalt fibre reinforced glass concrete slabs. Borhan TM and Bailey CG. *Materials and Structures vol.* 47, (1-2) 77-87.Springer Nature.

Strength and stiffness of post-heated columns repaired with ferrocement and fibre reinforced polymer jackets. Yaqub M, Bailey CG, Nedwell P, Khan QUZ and Javed I. *Composites Part B Engineering vol. 44, (1) 200-211. Elsevier.*

2012

Seismic performance of shear critical post-heated reinforced concrete square columns wrapped with FRP composites.

Yaqub M and Bailey CG. Construction and Building Materials vol. 34, 457-469. Elsevier.

Global modelling of fire protection performance of an intumescent coating under different furnace fire conditions.

Zhang Y, Wang YC, Bailey CG and Taylor AP. Journal of Fire Sciences vol. 31, (1) 51-72. Sage Publications.

Large-scale fire test of unprotected cellular beam acting in membrane action.

Vassart O, Bailey CG, Hawes M, Nadjai A, Simms WI, Zhao B, Gernay T and Franssen J-M. *Proceedings of The Institution of Civil Engineers - Structures and Buildings vol. 165, (7) 327-334.Emerald.*

Changes in the stress in the femoral head neck junction after osteochondroplasty for hip impingement: A finite element study.

Alonso Rasgado T, Jimenez Cruz D, Bailey CG, Mandal P and Board T. *Journal of Orthopaedic Research® vol. 30*, (12) 1999-2006. *Wiley*.

Global modelling of fire protection performance of intumescent coating under different cone calorimeter heating conditions.

Zhang Y, Wang YC, Bailey CG and Taylor AP. Fire Safety Journal vol. 50, 51-62. Elsevier.

Seismic strengthening of shear critical post-heated circular concrete columns wrapped with FRP composite jackets.

Bailey CG and Yaqub M. Composite Structures vol. 94, (3) 851-864. Elsevier.

2011

Large-Scale Fire Test of Unprotected Cellular Beam Acting in Membrane Action.

Vassart O, Bailey C, Hawes M, Nadjai A, Simms W, Zhao B, Gernay T and Franssen J-M. *Journal of Structural Fire Engineering vol. 2, (4) 259-268.Emerald.*

Axial capacity of post-heated square columns wrapped with FRP composites.

Yaqub M, Bailey CG and Nedwell P. Cement and Concrete Composites vol. 33, (6) 694-701. Elsevier.

An experimental study of relative structural fire behaviour and robustness of different types of steel joint in restrained steel frames.

Wang YC, Dai XH and Bailey CG. Journal of Constructional Steel Research vol. 67, (7) 1149-1163. Elsevier.

Structural performance of a post-tensioned concrete floor during horizontally travelling fires. Ellobody E and Bailey CG. *Engineering Structures vol. 33*, (6) 1908-1917.*Elsevier*.

Experimental behaviour of composite slabs during the heating and cooling fire stages. Guo S and Bailey CG. *Engineering Structures vol. 33, (2) 563-571.Elsevier.*

Cross sectional shape effects on the performance of post-heated reinforced concrete columns wrapped with FRP composites.

Yaqub M and Bailey CG. Composite Structures vol. 93, (3) 1103-1117. Elsevier.

Repair of fire damaged circular reinforced concrete columns with FRP composites. Yaqub M and Bailey CG. *Construction and Building Materials vol. 25, (1) 359-370.Elsevier.*

2010

Numerical modelling of structural fire behaviour of restrained steel beamcolumn assemblies using typical joint types.

Dai XH, Wang YC and Bailey CG. Engineering Structures vol. 32, (8) 2337-2351. Elsevier.

2009

Whole-building behaviour of bonded post-tensioned concrete floor plates exposed to fire. Bailey CG and Ellobody E. *Engineering Structures vol. 31, (8) 1800-1810.Elsevier.*

Science and Technology Developments in Structural Fire Engineering.

Bailey C. Structural Engineering International vol. 19, (2) 155-164. Taylor & Francis.

Effects of partial fire protection on temperature developments in steel joints protected by intumescent coating. Dai XH, Wang YC and Bailey CG. *Fire Safety Journal vol.* 44, (3) 376-386.*Elsevier*.

A Simple Method to Predict Temperatures in Steel Joints with Partial Intumescent Coating Fire Protection. Dai X, Wang Y and Bailey C. *Fire Technology vol. 46, (1).Springer Nature.*

Fire tests on bonded post-tensioned concrete slabs.

Bailey CG and Ellobody E. Engineering Structures vol. 31, (3) 686-696. Elsevier.

Modelling of unbonded post-tensioned concrete slabs under fire conditions.

Ellobody E and Bailey CG. Fire Safety Journal vol. 44, (2) 159-167. Elsevier.

Fire tests on unbonded post-tensioned one-way concrete slabs.

Bailey CG and Ellobody E. Magazine of Concrete Research vol. 61, (1) 67-76. Ice Publishing.

2008

Modelling of bonded post-tensioned concrete slabs in fire.

Ellobody EAM and Bailey CG. Proceedings of The Institution of Civil Engineers - Structures and Buildings vol. 161, (6) 311-323. Ice Publishing.

Experimental bond behaviour of welded mesh reinforcement at elevated temperatures. Giroldo F and Bailey CG. *Magazine of Concrete Research vol.* 60, (1) 23-31. *Ice Publishing.*

Simplified and Advanced Analysis of Membrane Action of Concrete Slabs. *. Aci Structural Journal vol. 105, (1).American Concrete Institute.*

2007

Small-scale concrete slab tests at ambient and elevated temperatures.

Bailey CG and Toh WS. Engineering Structures vol. 29, (10) 2775-2791. Elsevier.

Behaviour of concrete floor slabs at ambient and elevated temperatures.

Bailey CG and Toh WS. Fire Safety Journal vol. 42, (6-7) 425-436. Elsevier.

Instability of imperfect composite cylindrical shells under combined loading. Tafreshi A and Bailey CG. *Composite Structures vol.* 80, (1) 49-64. *Elsevier*.

Development of a Gaussian glass breakage model within a fire field model. Pope ND and Bailey CG. *Fire Safety Journal vol.* 42, (5) 366-376.*Elsevier*.

2006

Quantitative comparison of FDS and parametric fire curves with post-flashover compartment fire test data. Pope ND and Bailey CG. *Fire Safety Journal vol. 41, (2) 99-110.Elsevier.*

Advances in fire engineering design of steel structures.

Bailey CG. Proceedings of The Institution of Civil Engineers - Structures and Buildings vol. 159, (1) 21-35. Ice Publishing.

2005

Fracture Resistance of a Cracked Concrete Beam Post-strengthened with FRP Sheets. Wu ZJ and Bailey CG. *International Journal of Fracture vol. 135, (1-4).Springer Nature.*

Fire Engineering Design of Steel Structures.

Bailey CG. Advances in Structural Engineering vol. 8, (3) 185-202. Sage Publications.

2004

Indicative fire tests to investigate the behaviour of cellular beams protected with intumescent coatings. Bailey C. *Fire Safety Journal vol. 39, (8) 689-709.Elsevier.*

Membrane action of slab/beam composite floor systems in fire.

Bailey CG. Engineering Structures vol. 26, (12) 1691-1703. Elsevier.

Experimental behaviour of concrete floor slabs at large displacements.

Foster SJ, Bailey CG, Burgess IW and Plank RJ. Engineering Structures vol. 26, (9) 1231-1247. Elsevier.

Comparison of BRE simple design method for composite floor slabs in fire with nonlinear FE modelling. Huang Z, Burgess I, Plank R and Bailey C. *Fire and Materials vol.* 28, $(2\hat{a} \in 4)$ 127-138. *Wiley.*

2003

Discussion: Holistic behaviour of concrete buildings in fire.

. Proceedings of The Institution of Civil Engineers - Structures and Buildings vol. 156, (4) 422-424. Ice Publishing.

Efficient arrangement of reinforcement for membrane behaviour of composite floor slabs in fire conditions. Bailey CG. *Journal of Constructional Steel Research vol. 59, (7) 931-949.Elsevier.*

Large scale fire test on a composite slim-floor system. Bailey CG. *Steel and Composite Structures vol. 3, (3) 153-168.Techno-Press.*

2002

Holistic behaviour of concrete buildings in fire.

Bailey C. Proceedings of The Institution of Civil Engineers - Structures and Buildings vol. 152, (3) 199-212. Ice Publishing.

2001

Membrane action of unrestrained lightly reinforced concrete slabs at large displacements.

Bailey CG. Engineering Structures vol. 23, (5) 470-483. Elsevier.

2000

The tensile membrane action of unrestrained composite slabs simulated under fire conditions. Bailey CG, White DS and Moore DB. *Engineering Structures vol. 22, (12) 1583-1595.Elsevier.*

The influence of the thermal expansion of beams on the structural behaviour of columns in steel-framed structures during a fire.

Bailey CG. Engineering Structures vol. 22, (7) 755-768. Elsevier.

Effective lengths of concrete-filled steel square hollow sections in fire.

Bailey C. Proceedings of The Institution of Civil Engineers - Structures and Buildings vol. 140, (2) 169-178. Ice Publishing.

1999

The structural behaviour of steel columns during a compartment fire in a multi-storey braced steel-frame. Bailey CG, Moore DB and Lennon T. *Journal of Constructional Steel Research vol. 52, (2) 137-157.Elsevier.*

The behaviour of asymmetric slim floor steel beams in fire. Bailey CG. *Journal of Constructional Steel Research vol. 50, (3) 235-257.Elsevier.*

1998

Computer modelling of the corner compartment fire test on the large-scale Cardington test frame. Bailey C. *Journal of Constructional Steel Research vol.* 48, (1) 27-45.*Elsevier.*

Development of computer software to simulate the structural behaviour of steel-framed buildings in fire. Bailey CG. *Computers & Structures vol.* 67, (6) 421-438.*Elsevier*.

1996

Analyses of the effects of cooling and fire spread on steel-framed buildings. Bailey CG, Burgess IW and Plank RJ. *Fire Safety Journal vol. 26, (4) 273-293.Elsevier.*

The lateral-torsional buckling of unrestrained steel beams in fire. Bailey CG, Burgess IW and Plank RJ. *Journal of Constructional Steel Research vol. 36, (2) 101-119.Elsevier.*