

Spotlight on Structures

Research Journal of The Institution of Structural Engineers

In this section we shine a spotlight on papers recently published in *Structures* – the Research Journal of The Institution of Structural Engineers.

Structures is a collaboration between the Institution and Elsevier, publishing internationally-leading research across the full breadth of structural engineering which will benefit from wide readership by academics and practitioners.

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Structures prizes – shortlists announced

The following papers have been shortlisted for the *Structures* prizes in 2018. The winners of each prize will be unveiled at the Institution's People and Papers Awards ceremony in June. The prizes are judged by the Institution's Research Panel.

Best Research Paper

Structural Behaviour of Beam to Concrete-filled Elliptical Steel Tubular Column Connections

J. Yang, T. Sheehan, X. Dai and D. Lam

Volume 9 (2017), pp. 41–52

<https://doi.org/10.1016/j.istruc.2016.09.005>

Moment-curvature-thrust relationships for beam-columns

Andrew Liew, Leroy Gardner and Philippe Block

Volume 11 (2017), pp. 146–154

<https://doi.org/10.1016/j.istruc.2017.05.005>

Wind Loading of Structures: Framework, Phenomena, Tools and Codification

Giovanni Solari

Volume 12 (2017), pp. 265–285

<https://doi.org/10.1016/j.istruc.2017.09.008>

Predicting effects of design variables on modal responses of CLT floors

Ebenezer Ussher, Kaveh Arjomandi, Jan

Weckendorf and Ian Smith

Volume 11 (2017), pp. 40–48

<https://doi.org/10.1016/j.istruc.2017.04.006>

Best Research into Practice Paper

Hot-Rolled Steel and Steel-Concrete Composite Design Incorporating Strain Hardening

L. Gardner, X. Yun, L. Macorini and M. Kucukler

Volume 9 (2017), pp. 21–28

<https://doi.org/10.1016/j.istruc.2016.08.005>

Full-scale Tests of Stabilized and Unstabilized Extended Single-plate Connections

Kristin Thomas, Robert G. Driver, Steven A.

Oosterhof and Logan Callele

Volume 10 (2017), pp. 49–58

<https://doi.org/10.1016/j.istruc.2016.12.005>

Prestressing in Coventry Cathedral

Chris Burgoyne and Owen Mitchell

Volume 11 (2017), pp. 62–83

<https://doi.org/10.1016/j.istruc.2017.04.003>

Stability of Multiple-crossarm Prestressed Stayed Columns with Additional Stay Systems

Luke Lapira, M. Ahmer Wadee and Leroy Gardner

Volume 12 (2017), pp. 227–241

<https://doi.org/10.1016/j.istruc.2017.09.010>

Articles in press

The following articles have recently been made available online:

Bar Layout and Weight Optimization of Special RC Shear Wall

Seyed Rohollah Hoseini Vaez and Hamidreza

Shahmoradi Qomi

<https://doi.org/10.1016/j.istruc.2018.03.005>

Building in concrete with an ultra-lightweight knitted stay-in-place formwork: Prototype of a concrete shell bridge

M. Popescu, L. Reiter, A. Liew, T. Van Mele, R.J.

Flatt and P. Block

<https://doi.org/10.1016/j.istruc.2018.03.001>

Hydrodynamic pressures in contraction joints including waterstops on seismic response of high arch dams

A. Zeinizadeh, H. Mirzabozorg, A. Noorzad and

A. Amirpour

<https://doi.org/10.1016/j.istruc.2018.01.005>

Resistance of Axially Loaded T- and X-Joints of Elliptical Hollow Sections at Elevated Temperatures – A Finite Element Study

E. Ozyurt and Y.C. Wang

<https://doi.org/10.1016/j.istruc.2018.01.004>

New modifying truss model and numerical simulation of steel fiber reinforced concrete under pure torsion

Lei Hui and Francisco López-Almansa

<https://doi.org/10.1016/j.istruc.2018.02.001>

Whither Transverse Reinforcement in Bottle-shaped Struts?

Bhupinder Singh, Abhishek Vimal and Govind Gaurav

<https://doi.org/10.1016/j.istruc.2018.02.003>

On Structural Behavior of a Funicular Concrete Polyhedral Frame Designed by 3D Graphic Statics

Mohammad Bolhassani, Masoud Akbarzadeh,

Mehrad Mahnia and Ramtin Taherian

<https://doi.org/10.1016/j.istruc.2018.02.002>

Exploring Bridge Dynamics for Ultra-high-speed, Hyperloop, Trains

Nicholas A. Alexander and Mohammad M.

Kashania

<https://doi.org/10.1016/j.istruc.2018.02.006>

Experimental Assessment of Retrofitting RC Moment Resisting Frames with ADAS and TADAS Yielding Dampers

M. Tahamouli Roudsari, M.B. Eslamimanesh,

A.R. Entezari, O. Noori and M. Torkaman

<https://doi.org/10.1016/j.istruc.2018.02.005>

FRP Strengthened RC Rectangular Columns Under Combined Axial and Lateral Loading: Analytical Study

Sreelatha Vuggumudi and

P. Alagusundaramoorthy

<https://doi.org/10.1016/j.istruc.2018.02.007>

Ultimate Strength Analysis of Laminated Composite Sandwich Plates

Anish Ajay Kumar

<https://doi.org/10.1016/j.istruc.2018.02.004>