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Bridge Engineering

Bridges and transport network resilience: part II
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A review of latest trends in bridge health monitoring

N. Catbas and O. Avci

Multi-temporal InSAR for transport infrastructure monitoring: recent trends and challenges

V. Macchiarulo, P. Milillo, C. Blenkinsopp, C. Reale and G. Giardina

Assessing and mitigating risks to bridges from large wood using satellite imagery

D. Panici and P. Kripakaran

Probabilistic long-term resilience of bridges under seismic and deterioration processes

J. Qian, Y. Dong and D. M. Frangopol



Engineering and Computational Mechanics

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Investigating the hydraulic resonance behaviour in pressurised in-series piping systems

B. Essaidi and A. Triki

Vortex-induced vibration analysis of submerged floating tunnel tension legs

Z. Su, S. Sun, Y. Lu and Y. Pan

Assessing dynamic compression of AA2024-T351 with split Hopkinson pressure bar simulation

M. K. Gupta



Forensic Engineering

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Case analysis of sudden cracking in buildings near a landfill pit in China

Q. Zhang, X. Xu and Q. Zhao

Operational analysis for controlling safety violations on construction sites in South Africa

F. Emuze

Design reviewing: are experts better and does slowing down improve performance?

C. J. MacRobert



Construction Materials

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Improving the lateral load resistance of vernacular masonry walls subject to flooding

S. L. Platt, I. Erandi, C. Jayasinghe, T. Jayasinghe, D. Maskell, G. Ranasinghe and P. Walker

Strength and hydration of metakaolin-containing ultra-high-performance paste

Z. Mo, L. Bai and X. Fu

Effect of phase-change materials on the hydration and mineralogy of cement mortar

K. Snehal and B. B. Das

Concrete moisture diffusivity determination using electrical resistivity measurements

G. Alaswad



Engineering History and Heritage

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Updates on the reconstruction of Notre Dame of Paris, France

D. Theodossopoulos

The reconstruction of Noyon and Soissons Cathedrals in France after the First World War

D. Theodossopoulos

Non-statutory reservoirs: a journey of discovery

M. Roberts, R. Thorp and J. Benn

Remedial works to ornamental ponds within a historic park in the UK

C. P. Cavanagh and B. T. Read



Engineering Sustainability

In Focus: Pandemics

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The benefits of nature-based systems in a changing and uncertain world

R. M. Ashley, B. Horton, L. Walker, C. Digman, P. Shaffer and S. van Herk

Pandemic response in the energy sector and impacts for infrastructure resilience management

S. O'Brien and K. MacAskill

Building information modelling a key for construction industry recovery post-Covid-19

K. Idrissi Gartoumi, M. Boussaleh and S. Zaki

Resource efficiency in industrialised construction: a study in developing economies

F. Kedir, D. M. Hall, D. Ioannidou, T. Rupper, R. Boyd and A. Hollberg

Bridging technical, ecological and social-economic knowledge in engineering design

J. Halbe and J. Adamowski



Energy

Innovating for energy sustainability

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Water-energy nexus for Birmingham, UK

B. Akram and A. K. Arabi

Integrating existing water and wastewater assets to reduce domestic heating emissions

F. Liu, A. Schellart, J. Boxall, M. Mayfield and S. Tait

Thermal performance of radiant floor heating systems concrete slabs

K. Tota-Maharaj and B. O. Adeleke

Study on the performance of thermal energy of a classroom built with natural materials

F. Z. Benaddi, L. Boukhattem, B. Benhamou, P. C. Tabares-Velasco and F. Ait Nouh

Energy-efficient design of building facade, inspired by human skin

F. Tafreshi and B. Alemi



Geotechnical Engineering

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F. Thaimo, S. O. Ekololu and H. Quainoo

Analysis of influence factors on end soil reinforcement effect of rectangular pipe jacking

Y. Sun, Z. Xu, A. Li and C. Wang

Precise grading of surrounding rock based on numerical calculation of jointed rock mass

D. Huang, X. Q. Li and W. C. Song

Using effective medium theory to calculate permeability of rock with complex fractures

M. Hosseini, A. Baghbanan and M. C. Seifabad

Strength parameter selection framework for evaluating the design life of clay cut slopes

H. Postill, P. R. Helm, N. Dixon, A. El-Hamalawi, S. Glendinning and W. A. Take

Geostatic stress in oil-sand tailings

D. Shuttle, S. Martens and M. Jefferies

High-stress permeability and consolidation characteristics of flocculated fine tailings

C. Ma, C. Zhang, X. Guo, H. Zhou H and S. Gan

Consolidation testing of tailings in a slurry consolidometer using constant rate and accelerated loading

S. Islam, D. J. Williams and M. H. Bhuyan

Parameters controlling loss of mass and stiffness degradation of 'green' stabilised tailings

G. J. Bruschi, C. P. Santos, S. T. Ferrazzo, M. T. Araújo and N. C. Consoli



Ground Improvement

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Effects of biochar on cement-stabilised peat soil

J. Lau, G. Biscontin and D. Berti

Numerical simulation of triaxial tests on cement-treated clays using Hoek-Brown criterion

A. S. Azneb, S. Banerjee and R. G. Robinson



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Effect of organic matter on the shear strength of lime-stabilised clayey soils

A. Joy, B. M. Abraham and A. Sridharan

Effects of fibre additions on the tensile strength and crack behaviour of unsaturated clay

J. Wang, P. N. Hughes and C. E. Augarde

A novel application of vacuum preloading: conception, analysis and performance evaluation

A. de Lillis, G. Fasano, A. Flora and S. Miliziano

Management, Procurement and Law

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J. Huang, M. Abadi, P. Manu and C. Cheung

An analysis of health and safety provisions in NEC contracts

I. Ndekugri, N. A. Ankrah, E. Adaku and D. Mzyece

Independence and impartiality of contract administrators in the New Zealand construction sector

A. S. Premaratne, Z. Feng and T. W. Yu



Maritime Engineering

Offshore structures and subsea technology

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G. F. Akwaa and M. Gao

Computer-aided design of offshore S-lay fiber-reinforced polymer pipeline installation

D. Pavlou

Dynamic instability mechanisms of offshore pipelines and risers

D. Pavlou

State of the art in structural health monitoring of offshore and marine structures

H. Pezeshki, H. Adeli, D. Pavlou and S. C. Sirwardane



Municipal Engineer

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Finding effective parameters for mitigating traffic congestion near universities

N. Nadimi, A. K. Sangdeh and M. Berangi

Pedestrian level of service simulating and redesigning sidewalk in crowded urban areas

H. Kashian and E. Kashi

Condition index for public toilets using multi-criteria decision-making techniques

K. A. Patel, V. H. Lad, A. C. Panchani and D. A. Patel

Analysis of student pedestrian gap acceptance behaviour in suburban areas

A. Sheykhfard, F. Haghighi, A. Sedghi, S. Kavianpour and M. Azmoodeh



Accessibility as the determinant of attending educational opportunities in rural India

S. S. Singh and B. Sarkar

Smart Infrastructure and Construction

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Infrastructure and city ontologies

L. Varga, L. McMillan, S. Hallet, T. Russell, L. Smith, I. Truckell, A. Postnikov, S. Rodger, N. Vizcaino, B. Perkins, B. Matthews and N. Lomax

Towards self-healing in water infrastructure systems

L. McMillan and L. Varga

Human-centred model of single window using the example of Port of Bar, Montenegro

A. Radulovic

Advantages and barriers of modular construction method in constructing buildings

C. Chen

Fabrication progress detection for concrete T-girders based on improved Yolov4

D. Liang, L. Yang, C. Ma and Y. Yu



Structures and Buildings

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Behaviour of reinforced concrete beams having recesses in tension and compression sides

A. N. Ali, H. M. Afefy, N. M. Kassem and S. E. D. F. Taher

Soil-structure interaction effect on seismic response of controlled asymmetric buildings

S. Panchanan, S. Banerjee, R. S. Jangid and P. Kumar

Shear strengthening of existing reinforced concrete beams with embedded bars – an overview

M. Caro, S. Dirar, A. Quinn and H. Yapa

Evaluation of rocking motion on the seismic performance of a linked column frame system

E. Maroofi, M. R. Mansoori, A. S. Moghadam and A. Aziminejad

Damage detection of offshore platforms using dispersion analysis in Hilbert–Huang transform

S. B. Beheshti Aval, M. Maldar, E. Darvishan, B. Gholipour, N. M. Nejad and B. Asgarian



Transport

Connected vehicles and autonomous transport

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Fully automated vehicles: the use of travel time and its association with intention to use

Z. Wadud and F. Y. Huda

An overview of the impacts of autonomous vehicles on fire safety in parking buildings

M. Spearpoint and S. Dickson

Evaluation of managed-lane operation plan for autonomous vehicles

N. Park, S. Yang, J. Park and M. Won



Driver behaviour and experience around automated freight vehicle platoons

S. Yang, J. Park and M. Abdel-Aty

Urban Design and Planning

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Using child-friendly city principles to improve dilapidated neighbourhoods, Tehran, Iran

A. Alipour Tabrizi, S. M. Mousavi and A. Taqipour Akhtari

Comparison of the restorative quality of green spaces between the evening and daytime

J. Zhao, G. Liu and X. Li

The COVID-19 pandemic and urban density: a systematic literature review

P. Boujari, S. Vahabi, F. Mahdi, M. Rezaeisalim and M. S. Shahmiri



Waste and Resource Management

Sustainable waste management via material recovery and energy production

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Semi-automated machines for manufacturing construction materials from plastic waste

H. T. Mohan, R. S. Vishnu, G. Gautham, G. Jagadish, K. Shambunni, S. Shyamal, K. Jayanarayanan and K. M. Mini

Development of fly ash-polymer-based paver blocks by powder metallurgy processing technique

P. Ramalingam, V. V. Ramalingam and G. Myilsamy

Potential use of treated sewage in concrete to meet water crises in megacities

V. Sahu and P. Kumar

Data-driven modelling of bioethanol fuel production from rambutan fruit waste

M. A. Imteaz, A. B. M. S. Hossain and A. Ahsan

Circular economy landfills for temporary storage and treatment of mineral-rich wastes

D. J. Sapsford, D. I. Stewart, D. E. Sinnett, I. T. Burke, P. J. Cleall, M. J. Harbottle, W. Mayes, N. E. Owen, A. M. Sardo and A. Weightman



Water Management

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Analysis of conservative approach for simulating water supply system in various conditions

A. Rizvi, R. Rustom, G. Wright, M. Deepak and L. Jack

One-dimensional morphodynamic model for a tail reach of the Yellow River estuary

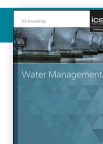
Z. Yang, J. Xia, M. Zhou, S. Deng, Z. Wan and Z. Li

Computationally efficient evolutionary optimisation for joint reservoir design-operations

E. Motevali Bashi Naeini and S. Soltaninia

The influence of a deposit body on near-bed shear stress

Y. He, J. Zhang, H. Jiang, Z. Guo and H. Zhao



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