

THEME 1 **Existing Concrete Structure: Repair, Rehabilitation, Retrofitting**

1. A sustainable green concrete (pervious) solution — Research study into the utilisation of fine aggregate waste pebbles and crushed coarse aggregate
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2. Fire damaged RC structures — Non-destructive testing possibilities
Éva Lubl6y and Balázs L. Gy6rgy
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3. Corrosion induced crack propagation in reinforced concrete elements
Kamal Kant Jain, Subhas Bera and Bishwajit Bhattacharjee
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4. The development of a diagnosis method for transverse prestressing tendon grout condition on existing bridges using impact-echo NDT
Yoshifumi Nagata, Akira Shiratori, Hiroshi Ueki and Takefumi Ito
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5. Influence of reinforcement corrosion on cracks — Numerical modelling
Peter Koteř and Miroslav Brodňan
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6. In situ monitoring of chloride diffusion in onshore concrete structures exposed to tidal zone of marine environment
Majid Safedian, Ali Akbar Ramezaniapour, Faramarz Moodi and Mohsen Takhsa
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7. Monitoring concrete members to SLS and ULS using image analysis
J6natas Valenęa, Daniel Dias-da-Costa and Ricardo Carmo
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8. Deterioration prediction of the concrete structure exposed to actual acid river water based on phase equilibrium calculation
Shintaro Miyamoto, Hiroshi Minagawa, Makoto Hisada, Yoshifumi Hosokawa and Yohei Hayasaka
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9. Optical fibre Bragg grating sensors in smart CFRP systems for the strengthening of reinforced concrete members
Klaus Holschemacher and Stefan K6seberg
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- 10.** Nonlinear damage indicators from modal data of reinforced concrete structures
Srinivas Voggu, Saptarshi Sasmal and K. Ramanjaneyulu
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- 11.** Damages in concrete road tunnels and their diagnostics
Jan Kucharik and Lubica Chalániová
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- 12.** Cyclic loading and corrosion effect on RC structural elements
Luca Giordano, Giuseppe Mancini and Francesco Tondolo
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- 13.** Structural monitoring and modal properties of a real time bridge and lab tests
Rene Veerman and Eddie Koender
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- 14.** Prediction of cracking in massive concrete structures by numerical simulations
Farid Benboudjema, Matthieu Briffaut, Aveline Darquennes and Adrien Hilaire
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- 15.** Durability of concrete structures applied with hydrophobic impregnations
Michel Donadio and Seng Chee Toh
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- 16.** Corrosion-damaged reinforced concrete T-beams strengthened in shear with embedded through-section carbon fibre-reinforced polymer rods
Shunde Qin, Samir Dirar and Andrew Chan
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- 17.** Flexural performance of pretensioned prestressed concrete beams having ruptured strands strengthened by CFRP sheets
Thi Thu Dung Nguyen, Koji Matsumoto, Tadahiko Tsutsumi, Yuji Sato, Asami Iwasaki and Junichiro Niwa
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- 18.** Experimental and theoretical studies on the influence of additional external prestressing on the shear capacity of continuous prestressed concrete beams
Martin Herbrand and Josef Hegger
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- 19.** 100th anniversary of reinforced concrete 'centennial hall' in Wrocław (1913–2013)
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- 20.** Rehabilitation of post tensioned flat slab affected by fire
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- 21.** Assessment and rehabilitation of the RC construction of the palace of youth, culture, and sports in Pristina
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- 22.** Repair and rehabilitation of bridge no 58 /1 across River Durgavati on NH-2 by external prestressing
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- 23.** A new repair method of honeycombing by resin infusion without removing attached aggregates
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- 24.** New punching strengthening systems for flat slabs
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- 25.** Influence of CFRP confinement and internal reinforcement on the structural behaviour of circular concrete columns
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- 26.** Analysis of short span bridges from prestressed concrete
Miroslav Brodňan, Peter Koteš and Patrik Kotula
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- 27.** Replacement of bridge decks with high strength lightweight precast prestressed concrete slabs
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- 28.** Evaluation of bond characteristics of CFRP/GFRP with concrete
Dhruv Attarwala, Paresh Patel and Urmil Dave
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- 29.** Mechanics of failure in FRP strengthened reinforced concrete in shear
Monika Grusova, Tim Ibell, Antony Darby, Mark Evernden and John Orr
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- 30.** Seismic retrofit of reinforced concrete buildings with seismic isolation
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- 31.** Computation of high confidence of low probability of failure (HCLPF) parameters for 3D shell modelled RC structures — Seismic certificate
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- 32.** FRP wrapping influence on effective length in lap splices
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- 33.** In-plane behaviour of a three-storey masonry infilled RC frame
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- 34.** Seismic safety and vulnerability mitigation of school buildings
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- 35.** Structural reinforcement and seismic retrofitting with UHPFRCC special formulation jacketing of 1930 building RC structural elements
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- 36.** A new seismic device for strengthening R/C exterior beam-column joints
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- 37.** Nonlinear finite element modelling of prestressed concrete girders strengthened in shear with CFRP reinforcement
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- 38.** Empirical models for hysteretic bond behaviours of plain round bars
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- 39.** Evaluation of the response of shear critical walls using a three-parameter kinematic theory
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- 40.** Fatigue design of prestressed concrete beams under cyclic shear
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- 41.** Interval analysis for uncertainty analysis of creep and shrinkage in post-tensioned box-girder bridges
Suryakanta Biswal and Ananth Ramaswamy
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- 42.** Analytical study of adequacy of the existing bridges to carry over-weight vehicles using multi-axle hydraulic trailers
Mahesh Tandon, Alok Bhowmick, G. L. Verma and Aditya Sharma
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- 43.** Simplistic approach for evaluating the residual capacity of reinforced concrete beams after exposure to fire
Hitesh Lakhani, Tarvinder Singh, Akanshu Sharma, G. R. Reddy and R. K. Singh
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- 44.** Bearing capacity of prestressed concrete decks slabs
Sana Amir, Cornelis van der Veen, Joost Walraven and Ane de Boer
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- 45.** Shear capacity of RC structural members: Assessment of available strength and drift capacity models
Ciro Del Vecchio, Marco Di Ludovico, Andrea Prota and Gaetano Manfredi
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- 46.** Improving performance of buildings subjected to mining deformation
Szymon Dawczyński, Marcin Górski, Rafał Krzywoń and Grzegorz Wandzik
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- 47.** Modelling of cracking in concrete foundations located on mining subsoil
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- 48.** Towards a practical probabilistic post-fire assessment for concrete slabs
Ruben Van Coile, Robby Caspeepe, Pieter Desnerck and Luc Taerwe
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- 49.** Dealing with corroded unbonded tendons in the Netherlands
Dick A. Hordijk, Jan J. Meester and Simon N. M. Wijte
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51. Integral bridges: Design principles and sustainability
Tiju Zachariah and Gajanan Wagle
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52. Concrete equivalent performance concept for durability — An operational guide for the comparative approach
Lionel Linger, Emmanuel Roziere, Francois Cussigh, Patrick Rougeau and Ahmed Loukili
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53. Shear analysis and experimental research programme on anchorage criteria in RC slabs: Comparisons between FIBMC 2010 and NBR6118
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54. Designing sustainable concrete on the basis of equivalence performance: Assessment criteria for safety
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55. Punching in post-tensioned concrete flat slabs with edge columns
Vladimir Barban and Guilherme Melo
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56. Evolution of effective non-invasive retrofitting strategies for gravity load designed beam–column sub-assemblages under seismic loading
Saptarshi Sasmal, V. Srinivas and K. Ramanjaneyulu
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57. Sustainability of precast structures
David Fernandez-Ordoñez, Javier Angel Ramirez Masferrer and Beatriz Gonzalez Rodrigo
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58. Prediction of compressive strength through accelerated curing
Manmohan Singh, Kulwant Singh, Manwinder Singh and Kuldip Singh Takshi
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59. Shear load capacity of concrete floor slabs with integrated utility ducts and the possibility of alternative reinforcement elements
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60. Strut-and-tie models for bar development and anchorage
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61. Automatization of the verification of prestressed concrete members, according to the Brazilian and French code specifications
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62. Experiment on concrete beams without shear reinforcement
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63. Evaluation of various electrical methods used to assess chloride transport in concrete
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64. Reliability-based evaluation of existing concrete bridges in Slovakia according to Eurocodes
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66. Punching strength of actual two-way slabs
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67. Shear strength of plastic hinge regions
Viktor Sigrist and Björn Schütte
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68. Design for service life: Model code 2010 and ISO 16204
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69. Application of global safety formats from model code 2010 for design and structural assessment by non-linear analysis
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70. Improving the L/D method
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71. Appropriate creep and shrinkage model of HPC for improved life-cycle design
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72. Shear capacity of concrete bridge decks – a contribution to sustainability
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73. The primary design conceptions of concrete and reinforced concrete structures in the ADM model code
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74. Bond and anchorage of embedded steel reinforcement in the *fib* model code
John Cairns
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75. A comparison of finite element solutions for 2-D reinforced concrete structures
Diego Lorenzo Allaix, Gabriele Bertagnoli, Vincenzo Ilario Carbone and Giuseppe Mancini
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76. Cracking in reinforced concrete panels: experimental results from the project CEOS. FR and preliminary interpretation based on cracked membrane model
Philippe Bisch, Silvano Erlicher, Miquel Huguet, Gianluca Ruocci and Tong Jiang
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77. Service life design — Field studies and laboratory studies
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78. Investigations on recycled aggregate geopolymer concrete with quarry dust
Revathi Purushothaman, Lavanya K and Ramesh R. A
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- 79.** Differences in behaviour of natural- and recycled-aggregate concrete members
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- 80.** Construction and demolition (C&D) waste recycling in New Delhi
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- 81.** Reduction of carbon footprint of concrete in ready mix concrete applications
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- 82.** Reinforced concrete composite beams for sustainable construction
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- 83.** Performance based design of low-carbon concrete structures using flexible formwork
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- 84.** Benchmark for deemed-to-satisfy rules
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- 85.** Performance based deemed-to-satisfy rules
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- 86.** Improving the performance of recycled aggregate concrete using heat treated recycled aggregates
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- 87.** Effect of curing on the properties of GGBS based geopolymer concrete
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- 88.** A new strategy for increasing the water efficiency of mortar composition to design cement-reduced 'redcarb' concrete
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89. Deterministic and reliability based structural optimisation for concrete structures including environmental aspects
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90. ISO 22966 “Execution of concrete structures” – Giving the design assumptions and instructing the constructor
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91. A brief introduction to ISO 22965 “Concrete” – How to specify and produce concrete
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92. A critical appraisal of codes as vehicles for realizing on-site quality
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94. What was not possible yesterday is possible today
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95. Influence of concrete topping on the work of prestressed hollow core slabs on flexible supports
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96. Shear resistance of deep reinforced concrete corbels in continuously buckling restrained braced RC frames
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97. Designing high strength mass concrete for tall buildings
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98. Energy dissipation of masonry structures under cyclic loading
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- 99.** Case study on new initiatives taken on caisson foundations and cutting edge construction at Bogibeel Bridge
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- 100.** An elevated road over Barapulla Nallah in New Delhi
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- 101.** Enhanced performance of a framed arch bridge
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- 102.** Conception and design of long integral bridge over Chakki Khad
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- 103.** Elevated road and metro project over Ajmer Road, Jaipur
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- 104.** Tres Voltas Viaduct: A solution with rotating piers
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- 105.** Bridge over the River Erne, Ireland
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- 106.** Second Godavari Bridge: The new link bridging East-West Godavari District
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- 107.** Viaduct over the Ribera Despe-te Que Suas
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- 108.** Outcomes of 3-year concrete follow up for the Lusail Rail Transit System in Doha (Qatar)
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- 109.** Upgraded features of 'floating flyover' in the state of Assam
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- 110.** Durable assets for village roads at affordable cost
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- 111.** Construction of cable stayed bridge superstructure and cable installation for Mumbai Metro, Mumbai
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- 112.** Design and construction of flyover cum road over bridge crossing Mumbai–Pune highway, central railway and Pawana River in urban area — Planning and design difficulties
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- 113.** Planning, design and construction difficulties faced while construction of 2 km long part of Eastern Freeway viaduct in Mumbai urban area
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- 114.** About the design of new or recalculation of existing inner linings of tunnels taking the non-linear material behaviour of concrete into account
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- 115.** Construction of Vynethaya Bridge on the Godavari River by autolaunching truss
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- 117.** Fast track construction of Kolkata Metro – EWE
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- 118.** Improving the performance of concrete bridges by using the balance lift method
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- 119.** Construction of approaches to Signature Bridge at Wazirabad, Delhi
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- 120.** Construction of Eastern Freeway: Section from museum to Anik near Bhakti Park in Mumbai
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- 121.** Precast tunnel segments reinforced with fibreglass bars
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- 122.** Design and construction of India's longest elevated corridor
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- 123.** Elevated circulatory at Padhi, Chennai, India
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- 124.** Probabilistic approach to design for durability — An appropriate tool for improving performance of concrete structures
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- 125.** 280 m long three span road bridge with 160 m central span over River Chenab
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- 126.** Spliced girder bridge application and design
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- 127.** Viaduct for the high speed railway over the River Ulla (Spain)
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- 128.** Dynamic response of road bridge piers under earthquake with coupled soil structure interaction
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- 129.** Infrastructure projects for Commonwealth Games
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- 130.** Construction and geometry control of a large balanced cantilever bridge with tall pier column —Kawashimogawa Bridge project
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- 132.** Design of tall piers for railway bridges in Northeast India
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- 133.** Kiss Bridge: A singular prestressed concrete pedestrian bridge in Spain
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- 134.** Retro-fitment/rehabilitation of bridges on Indian Railways
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- 135.** The contribution of prefabrication for the development of slab-track systems for the superstructure of high speed railway lines
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- 136.** Innovative design of a continuously RC slab-track for Cityval on Rennes' new metro line
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- 137.** Approaches to Signature Bridge at New Delhi
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- 138.** Crossing the mighty Kosi River: Design and construction challenges in recently completed Kosi Bridge at Niramli
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- 139.** Development of pre-stressed concrete sleeper for higher axle load on Indian Railways
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- 140.** Obligatory spans in Inderlok to Mundka corridor of Metro Project at Delhi
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- 141.** New bridges of the Deutsche Bahn: Integral and semi-integral railway bridges for high speed trains
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- 142.** Construction of road under bridge at Alugaddabavi, Secunderabad, by box pushing technique in South Central Railways
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- 143.** Construction of new rail link from Edapalli to Vallarpadam (ICTT) at Kochi for RVNL
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- 144.** Marine concrete structures
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- 145.** Shaping of concrete viaducts on loop ramps of an urban interchange with standard falsework systems
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- 146.** Numerical study on axial compression of concrete filled plastic tubes
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- 147.** Life cycle assessment of repair and maintenance solutions for cooling towers
Michel Donadio, Clara Fiuza and David Taylor
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- 148.** Construction of concrete bridges using reinforcement made of low level radioactive steel
Peter Paulik, Michal Pánik and Vladimír Nečas
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- 149.** Design and engineering of the world's tallest natural draught cooling towers (202 m high) at Kalisindh thermal power project India
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- 150.** Design and construction issues for water intake system for different ground situations
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- 151.** Development of concrete technology for natural draught cooling towers in India, its present and future
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- 152.** Design and construction of 1:4 scale test model to simulate prestressed concrete containment of Tarapur atomic power project, India
S. G. Joglekar, R. K. Singh and Raghupati Roy
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- 153.** Crack and leakage behaviour of a prestressed concrete containment wall: The PACE- Experiment
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- 154.** Application of zero slump concrete in pavement and dam structures
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- 155.** Materials and mix design studies for the high paste roller compacted concrete (RCC) of middle Vaitarna Dam, India
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- 156.** Durability of concrete in sulphuric acid environment
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- 157.** Challenges involved in design and construction of 275 m tall RCC chimneys
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- 159.** Large-panel prefabrication in India 50 years ago: And what we would do differently today
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- 160.** Study about regularly experimental tests on mechanical resistance for conformity evaluation of precast vibrated PC electrical poles: Conclusions and recommendations for improving performances
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- 161.** High speed connectivity through Bangalore–Hosur elevated viaduct
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- 162.** Ventilated façade structures made of textile-reinforced concrete: Structural behaviour and construction
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