



fib 2018
prague

Final programme of
**The 12th *fib* International
PhD Symposium
in Civil Engineering**

Czech Technical University in Prague

Prague, Czech Republic

August 29-31, 2018



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12th *fib* International PhD Symposium in Civil Engineering

CONFERENCE PROGRAM: SUMMARY

Tuesday 28.08.2018		Atrium
	17:00 – 18:00	Registration
	18:00 – 21:00	Welcome drink

Wednesday 29.08.2018		B280	Atrium	B169	
	8:00 – 16:00		Registration	9:00 – 9:30 Meeting of reviewers	
	9:30 – 10:00	Opening of the symposium <i>(Jan L. Vitek, György L. Balázs)</i>			
	10:00 – 10:45	Structural UHPFRC – smart, light and durable <i>(Eugen Brühwiler)</i>			
	10:45 – 11:30	Power of prestressing <i>(Jiří Stráský)</i>			
	11:30 – 11:50		Photo of conference participants		
	11:50 – 13:20	Lunch (Masarykova kolej)			
		C215	C217	C219	C221
	13:20 – 15:00	AN1	AN2	MAT1	STR1
	15:00 – 15:30	Coffee Break (Atrium)			
	15:30 – 17:10	AN3	AN4	MAT2	STR2
		B169			
	17:10 – 17:30	Meeting of reviewers			

Thursday 30.08.2018		Atrium		B169		
	8:00 – 16:00	Registration		8:30 – 9:00 Meeting of reviewers		
		C215	C217	C219	C221	
	9:00 – 10:40	AN5	MO1	MAT3	DUR1	
	10:40 – 11:10	Coffee Break (Atrium)				
	11:10 – 12:25	AN6	MO2	MAT4	DUR2	
	12:25 – 14:00	Lunch (Masarykova kolej)				
	14:00 – 15:40	AN7	MO3	MAT5	DUR3	
	15:40 – 16:10	Coffee Break (Atrium)				
	16:10 – 17:50	AN8	REP1	AN9	DUR4	
		B169				
	17:50 – 18:30	Meeting of reviewers				
		Atrium				
19:00 – 22:00	Conference dinner					

Friday 31.08.2018		Atrium		B169		
	8:00 – 12:00	Registration		8:30 – 9:00 Meeting of reviewers		
		C215	C217	C219	C221	
	9:00 – 10:40	AN10	REP2	AN11	SUS	
	10:40 – 11:10	Coffee Break (Atrium)				
	11:10 – 12:50	AN12	REP3	AN13		
	12:50 – 14:20	Lunch (Masarykova kolej)		Meeting of reviewers (B169)		
		B280				
	14:20 – 15:05	Can the structural be creative? <i>(Hugo Corres Peiretti)</i>				
	15:05 – 15:20	Best paper award				
	15:20 – 16:00	Closing Ceremony <i>(Jean-Michel Torrenti, Stephen Foster, Jan L. Vitek)</i>				

12th *fib* International PhD Symposium in Civil Engineering

CONFERENCE PROGRAM: DETAILED

DAY 0: TUESDAY, 28TH AUGUST 2018

17:00 – 18:00 Registration **Atrium**

18:00 – 21:00 Welcome Drink **Atrium**

DAY 1: WEDNESDAY, 29TH AUGUST 2018

08:00 – 16:00 Registration **Atrium**

09:30 – 10:00 Opening of the symposium **B280**

Jan L. Viték, György L. Balász

10:00 – 11:30 Keynotes I **B280**

Structural UHPFRC – smart, light and durable

Eugen Brühwiller

Power of prestressing

Jiří Stráský

11:30 – 11:50 Photo of conference participants **Atrium**

11:50 – 13:20 Lunch **Masarykova kolej**

13:20 – 15:00 Sessions

C215 Structural analysis and design 1 (AN1)

Chairman: Lukáš Vráblík

AN1_1 Safety concept for non-linear finite element analysis

Remus Tecusan and Konrad Zilch

AN1_2 Design equations from empirical and semi-empirical resisting models: a reliability-based approach

Diego Gino, Gabriele Bertagnoli, Paolo Castaldo and Giuseppe Mancini

AN1_3 Stochastic analysis of precast structural members failing in shear

Ondřej Slowik, Drahomír Novák, Alfred Strauss and Bernhard Krug

AN1_4 Advanced reliability and sensitivity analysis of prestressed concrete girders failing in shear

Lukáš Novák, Lixia Pan, Ondřej Slowik and Drahomír Novák

C217 Structural analysis and design 2 (AN2)

Chairman: Hugo Corres Peiretti

AN2_1 Overview and new insights into the modeling of the force transfer in the end zones of pretensioned concrete girders

Kizzy Van Meirvenne, Wouter De Corte, Veerle Boel and Luc Taerwe

- AN2_2 Large scale tests on prestressed concrete beams subjected to bending, shear and torsion
Eva Stuppak and Reinhard Maurer
- AN2_3 Comparison of post-installed and cast-in rebars under monotonic and cyclic loads
Angelo Marchisella and Giovanni Muciaccia
- AN2_4 Development of three-dimensional strut-and-tie models for structural concrete components
Salma Mozaffari, Masoud Akbarzadeh and Thomas Vogel

C219 Advanced materials 1 (MAT1)

Chairman: Harald Müller

- MAT1_1 Monotonic and cyclic pull-out behaviour of 3D and 5D hooked-end steel fibres from a concrete matrix
Maure De Smedt, Kristof De Wilder, Els Verstrynge and Lucie Vandewalle
- MAT1_2 Experimental investigations on bond behavior of pre-tensioned carbon fiber reinforced polymer tendons
Sophia Perse and Josef Hegger
- MAT1_3 Tensile response of ultra-high performance steel fiber reinforced concrete under moderate strain rates
Veronika Goglin, Götz Hüsken, Peter Wossidlo, Ralf Häcker, Hans-Carsten Kühne and H.J.H. Brouwers
- MAT1_4 Experimental and numerical study of the behaviour of post installed anchors in FRC
Viktor Hlavička and Éva Lublóy

C221 Innovative structures and details 1 (STR1)

Chairman: Michal Števíla

- STR1_1 Structural behaviour of carbon reinforced slab elements made of ultra-high performance concrete
Philipp Preinstorfer, Benjamin Kromoser and Johann Kollegger
- STR1_2 Experimental evaluation of concrete beam with corrugated section under four-point bending test
Chong Yong Ong, Kok Keong Choong and Mirzakhid Miralimov
- STR1_3 Modelling and experimental verification of flexural behaviour of textile reinforced cementitious composite sandwich renovation panels
Matthias De Munck, Jolien Vervloet, Michael El Kadi, Svetlana Verbruggen, Jan Wastiels, Olivier Remy and Tine Tysmans
- STR1_4 Diagrid structures as innovative retrofit solutions for existing reinforced concrete buildings
Simone Labò, Chiara Passoni, Alessandra Marini, Andrea Belleri and Paolo Riva

15:00 – 15:30

Coffee Break **Atrium**

15:30 – 17:10

Sessions

C215 Structural analysis and design 3 (AN3)

Chairman: Lukáš Vráblík

- AN3_1 On the mechanical response of a fibre reinforced concrete redundant structure; the redistribution factor
Ali Pourzarabi, Matteo Colombo and Marco di Prisco
- AN3_2 Semi-discrete analytical beam model for fibre reinforced concrete beams
Mária Erdélyiné Tóth and Anikó Pluzsik
- AN3_3 Analytical model verification for FRP and synthetic fibre reinforced concrete beams
Peter Schaul and György L. Balázs
- AN3_4 Load-bearing performance of concrete beams with basalt fibre reinforced polymer (BFRP) rebars
Sebastian Hofmann, Carl-Alexander Graubner and Tilo Proske

C217 Structural analysis and design 4 (AN4)

Chairman: Tor Ole Olsen

- AN4_1 Design of concrete structures using structural optimization based on the stress field method
Qianhui Yu, Aurelio Muttoni and Miguel Fernández Ruiz
- AN4_2 Modern experimental research techniques for a consistent understanding of aggregate interlocking
Max Tirassa, Miguel Fernández Ruiz and Aurelio Muttoni
- AN4_3 Bottle-shaped stress field solution for partially loaded reinforced concrete blocks
Tomislav Markić and Walter Kaufmann
- AN4_4 Multiphase simulations of experimental tests on the hygric behaviour of concrete
Andreas Brugger, Peter Gamnitzer and Günter Hofstetter

C219 Advanced materials 2 (MAT2)

Chairman: Jean-Michel Torrenti

- MAT2_1 Behaviour of concrete at elevated temperatures with respect to shear failure
Naser Alimrani and György L. Balázs
- MAT2_2 Post-fire assessment of mechanical properties of polypropylene-fibered reactive powder concrete using non-destructive testing methods
Muhammad Abid, Xiaomeng Hou, Wenzhong Zheng and Shuomang Shi

MAT2_3 Evolution of micro-mechanical properties of cement and fly-ash composite measured by nanoindentation over one year period

Jiří Němeček, Veronika Koudelková and Jiří Němeček

MAT2_4 Experimental research on textile reinforced concrete for the development of design tools

Patrick Valeri, Miguel Fernández Ruiz and Aurelio Muttoni

C221 Innovative structures and details 2 (STR2)

Chairman: Michal Števíla

STR2_1 A study for an effective arrangement of shear reinforcements in pier cap designs

Jae-Hyun Park, Jun-Long An and Jae-Yeol Cho

STR2_2 Kinked rebar: a novel configuration for improving the collapse resistances of the reinforced concrete frame structures

Hanlin Qiang and Peng Feng

STR2_3 Influence of head-size on concrete cone capacity: a comparison for two cast-in solutions

Giuseppe Di Nunzio, Angelo Marchisella and Giovanni Muciaccia

STR2_4 Deformation of a 3D printed polyurethane formwork during concrete pouring

Elodie Paquet, Philippe Poullain, Benoît Furet and Sébastien Garnier

DAY 2: THURSDAY, 30TH AUGUST 2018

08:00 – 16:00 Registration **Atrium**

09:00 – 10:40 Sessions

C215 Structural analysis and design 5 (AN5)

Chairman: Radomír Pukl

- AN5_1 Assessment of existing shear strength models for reinforced concrete deep beams
Kondalraj Ramakrishnan and G. Appa Rao
- AN5_2 Implementation of the critical shear crack theory to predict punching failure in the analysis of RC layered-shells
Andri Setiawan, Robert Vollum and Lorenzo Macorini
- AN5_3 Comparison of modelling of hardness testing with DEM and FEM
Zoltán Gyurkó and Rita Nemes
- AN5_4 Combining finite element analyses and mechanical models for the assessment of reinforced concrete slabs
Raffaele Cantone, Miguel Fernández Ruiz, Beatrice Belletti and Aurelio Muttoni

C217 Monitoring and structural assessment 1 (MO1)

Chairman: Thomas Vogel

- MO1_1 Check of resistance to fatigue on existing prestressed concrete bridges by monitoring
Jens Heinrich and Reinhard Maurer
- MO1_2 Verification of in-use concrete bridge's safety inspection methodology with decommissioned bridges
Joo-Hyung Lee, Nankyong Lee, Minyeong Kim and Jae-Yeol Cho
- MO1_3 SHM system of a cable stayed bridge as a data source for probabilistic durability assessment
Marco Teichgraeber, Jan Biliszczuk and Paweł Hawryszków
- MO1_4 Assessment of one-way slab bridges with bent-up bars as shear reinforcement
Tobias Huber, Patrick Huber and Johann Kollegger

C219 Advanced materials 3 (MAT3)

Chairman: Eugen Brühwiler

- MAT3_1 The effect of the setting accuracy on the load bearing capacity of plate glass columns
András Jakab and Salem G. Nehme

- MAT3_2 Opportunities for biodegradable straw-based thermal insulations
Dániel Csanády and Olivér Fenyvesi
- MAT3_3 A preliminary study into the effect of superplasticisers on the dispersion of graphene materials in cement
Ioanna Papanikolaou, Chrysoula Litina and Abir Al-Tabbaa
- MAT3_4 Self-healing properties of sulfur composites with expansive agents
Seongwoo Gwon and Myoungsu Shin

C221 Durability and life assessment 1 (DUR1)

Chairman: György L. Balázs

- DUR1_1 Quantitative evaluation of effects of crack control methods for NATM tunnel lining concrete by 3D finite element method
Keitai Iwama and Akira Hosoda
- DUR1_2 Influence of through and surface cracks on transport of water vapor in concrete
Ryohei Ohara and Takumi Shimomura
- DUR1_3 Numerical simulation of early age thermal stress in durable RC bridge slab utilizing blast furnace slag concrete with expansive additive
Arifa Zerin, Akira Hosoda, Satoshi Komatsu and Kosuke Kashimura
- DUR1_4 Multi-model approach to assess the ultimate flexural capacity of existing concrete bridges
Marco Proverbio and Ian F.C. Smith

10:40 – 11:10 Coffee Break Atrium

11:10 – 12:25 Sessions

C215 Structural analysis and design 6 (AN6)

Chairman: Radomír Pukl

- AN6_1 Influence of transverse reinforcement on the cracking behaviour of reinforced concrete panels subjected to uniaxial tension
Muhammad K. Shehzad and John P. Forth
- AN6_2 Numerical analyses of concrete composite T-shaped beams with variously arranged interface
Łukasz Jabłoński
- AN6_3 Some developments in limit analysis of RC structures and structural elements
Elisa Conti and Pier Giorgio Malerba

C217 Monitoring and structural assessment 2 (MO2)

Chairman: Fabrice Gatuingt

- MO2_1 Experimental evaluation of longitudinal resistance of continuously welded rail on bridges
Filip Bláha and Marek Foglar
- MO2_2 Reliability of industrial chimneys affected by carbonation-induced corrosion
Jan Mlcoch and Miroslav Sykora
- MO2_3 Comparison of energy dissipation devices in response reduction of blast-induced vibration of buildings
Deepak Kumar Sahu, Robin Davis, Pradip Sarkar and Sanjaya Ku. Patro

C219 Advanced materials 4 (MAT4)

Chairman: Katalin Kopecskó

- MAT4_1 Characteristics of cement pastes incorporating different amounts of unprocessed waste fly ash (UWFA)
Mohammed Abed and Rita Nemes
- MAT4_2 Some possibilities of the composition of ternary binders
David Pytlík, Markéta Bambuchová and Vlastimil Bílek
- MAT4_3 Effect of the addition of polypropylene fibers on the rheological behaviour of fresh fluid cementitious materials
Fariza Sultangaliyeva, Hélène Carré, Christian La Borderie and Nicolas Roussel

C221 Durability and life assessment 2 (DUR2)

Chairman: György L. Balázs

- DUR2_1 Corrosion of glass used for radioactive waste disposal influenced by environmental parameters
Ali Al Dabbas and Katalin Kopecskó
- DUR2_2 FEM and RBSM numerical analyses of concrete wall under long-term exposure to neutron irradiation
Yuliia Khmurovska and Petr Stemberk
- DUR2_3 Gas diffusivity test method development: effect of cement paste saturation degree and concrete specimen thickness
Mouna Boumaaza, Bruno Huet, Philippe Turcry, Christoph Gehlen, Abdelkarim Ait-Mokhtar and Detlef Heinz

12:25 – 14:00

Lunch

Masarykova kolej

C215 Structural analysis and design 7 (AN7)**Chairman: Jiří Kolísko**

- AN7_1 Fibre textile reinforced cementitious composites: experimental investigation and modelling of three point bending tests on short beams
Michael El Kadi, S. Verbruggen, J. Vervloet, M. De Munck, J. Wastiels, D. Van Hemelrijck and T. Tysmans
- AN7_2 Load-bearing capacity and deformation behaviour of carbon-textile reinforced concrete members
Redouan El Ghadioui, Tilo Proske and Carl-Alexander Graubner
- AN7_3 Design and experimental investigation of textile reinforced cement sandwich panel ends.
Jolien Vervloet, Petra Van Itterbeeck, Brendan Murray, Svetlana Verbruggen, Michael El Kadi, Matthias De Munck, Jan Wastiels and Tine Tysmans
- AN7_4 Analysis of selected adhesive joint types by FEM
Arkadiusz Bula, Jacek Hulimka and Marcin Kozłowski

C217 Monitoring and structural assessment 3 (MO3)**Chairman: Michaela Frantová**

- MO3_1 Anchorage capacity of corroded smooth reinforcement bars in existing reinforced structures
Samanta Robuschi, Karin Lundgren, Ignasi Fernandez, Kamyab Zandi and Mathias Flansbjerg
- MO3_2 Evaluation of fair-faced concrete surfaces using digital image processing
Kitti Károlyfi and Ferenc Papp
- MO3_3 Performance analysis of distributed optical fiber sensors on reinforced concrete elements under fatigue testing
António Barrias, Joan R. Casas and Sergi Villalba
- MO3_4 Influence of materials knowledge level on the assessment of the shear strength characteristic value of existing RC beams
Angelo Forte, Silvia Santini, Gabriele Fiorentino, Davide Lavorato, Alessandro Vittorio Bergami and Camillo Nuti

C219 Advanced materials 5 (MAT5)**Chairman: Petr Hájek**

- MAT5_1 Effect of metakaolin on mechanical properties of cement paste exposed to elevated temperatures
Nabil Abdelmelek and Éva Lublóny

- MAT5_2 Influence of limestone addition to cement on rheological properties of mortars
Małgorzata Gołaszewska and Zbigniew Giergiczny
- MAT5_3 Ultimate compressive strain in lightweight aggregate concrete beams
Jelena Zivkovic and Jan Arve Øverli
- MAT5_4 Numerical simulation of concrete pumping pressure loss
Yong Yuan, Yaxin Tao and Weijiu Cui

C221 Durability and life assessment 3 (DUR3)

Chairman: Marco di Prisco

- DUR3_1 Effect of water contents of recycled concrete aggregates on carbonation kinetic
Marie Sereng, Assia Djerbi, Othman Omikrine-Metalissi, Patrick Dangla and Jean-Michel Torrenti
- DUR3_2 Numerical study of the effect of moisture on chloride and carbon dioxide transport in concrete
Mohamad Achour, Ouali Amiri, François Bignonnet and Emmanuel Rozière
- DUR3_3 Analysis of the influence of chloride exposure conditions and material properties on the convection zone depth and the corresponding chloride content
A. El Farissi, Ph. Turcry, A. Younsi, A. Aït-Mokhtar, A. Aït-Alaïwa and Ph. Gotteland
- DUR3_4 Effects of delayed ettringite formation on reinforced concrete structures
Yvan Thiebaut, Stéphane Multon, Alain Sellier, Laurie Lacarrière, Laurent Boutillon, Djemal Belili, Lionel Linger, François Cussigh and Sofiane Hadji

15:40 – 16:10 Coffee Break Atrium

16:10 – 17:50 Sessions

C215 Structural analysis and design 8 (AN8)

Chairman: Aurelio Muttoni

- AN8_1 Shear strength of thin-walled concrete members with micro-reinforcement
Daniel Busse and Martin Empelmann
- AN8_2 Diagonal cracking load of concrete members without shear reinforcement
Sara Javidmehr and Martin Empelmann
- AN8_3 Investigations on influence factors on shear in structural components without shear reinforcement
Viviane Adam and Josef Hegger

C217 Strengthening and repair 1 (REP1)

Chairman: Jiří Kolísko

- REP1_1 Strengthening of reinforced concrete bridges by post-tensioning
Adam Svoboda and Ladislav Klusáček
- REP1_2 Strengthening infilled RC frames against biaxial seismic action
İsmail Ozan Demirel, Ahmet Yakut and Barış Binici
- REP1_3 Evaluation for shear strength of biaxial RC slab-column connections with ultra high performance fiber-reinforced concrete overlay
Hyun-Soo Youm, and Sung-Gul Hong
- REP1_4 Strengthening of hybrid steel-concrete shear walls using high performance steel fiber reinforced cementitious composites
Viorel Todea, Valeriu Stoian, Sorin-Codruț Floruț, Dan Adrian Popescu

C219 Structural analysis and design 9 (AN9)

Chairman: Alena Kohoutková

- AN9_1 Evaluation of the (UHP)FRC slab contact blast resistance with numerical simulation using LS-DYNA
Ondřej Janota and Marek Foglar
- AN9_2 Impact behavior of RC beam considering various momentum of drop weight
Yong Jae Yu and Jae-Yeol Cho
- AN9_3 Strain-based safety evaluations of nuclear spent-fuel transport casks in drop events
SeungPil Kim, Myoungsu Shin and Chanyoung Kim

C221 Durability and life assessment 4 (DUR4)

Chairman: David Fernández-Ordóñez

- DUR4_1 The use of supplementary cementitious materials to reduce calcium oxychloride formation: A review of the literature
Casey Jones and W. Micah Hale
- DUR4_2 Specification of new sulfate resistant blended cements through performance testing
Sonia Boudache, Emmanuel Rozière, Ahmed Loukili and Horacio Colina
- DUR4_3 Qualification methodology for durability of concrete subject to an environment with corrosion induced by carbonation
Nadare Matoiri Chaibati, Abdessamad Kobi, David Bigaud and Horacio Colina

DAY 3: FRIDAY, 31ST AUGUST 2018

08:00 – 12:00 Registration **Atrium**

09:00 – 10:40 **Sessions**

C215 Structural analysis and design 10 (AN10)

Chairman: David Fernández-Ordóñez

- AN10_1 Creep and shrinkage effects on reinforced concrete walls: Experimental study
Najeeb Shariff and Devdas Menon
- AN10_2 Sustained load and time to failure of fastening systems
Ioannis Boumakis, Marco Marcon, Krešimir Ninčević and Roman Wan-Wendner
- AN10_3 Experimental verification of long-term behaviour of concrete structures
Radek Vasatko and Jan L. Vitek
- AN10_4 Experimental investigation of bond behaviour under repeated loading
Yasmin Lemcherreq and Thomas Vogel

C217 Strengthening and repair 2 (REP2)

Chairman: Radim Čajka

- REP2_1 Behaviour of perforated rectangular columns wrapped with bi-directional glass fibre reinforced polymer reinforcement
Darya Memon, Jayaprakash Jaganathan and Stijn Matthys
- REP2_2 Tensile behaviour of textile reinforced mortar composite systems with flax fibres
Giuseppe Ferrara and Enzo Martinelli
- REP2_3 Shear resistance of concrete-to-concrete interface without reinforcement
Đorđe Čairović, Martin Zlámal, Petr Štěpánek, José Maria Raposo and Eduardo Júlio
- REP2_4 Concrete screws as a post-installed punching reinforcement under static and cyclic loads
Matthias Spiegl, Rupert Walkner and Jürgen Feix

C219 Structural analysis and design 11 (AN11)

Chairman: Akira Hosoda

- AN11_1 The nexus of column stiffness and lateral displacement in seismic design
Helga Iozan-Toth, Attila Puskás and Vasile Păcurar

- AN11_2 A stochastic model for the capacity estimation of non-seismically designed beam-column joints
Özgür Yurdakul, Onur Tunaboyu, Ladislav Routil and Özgür Avşar
- AN11_3 FEA simulation and probability approach of the road barrier crash tests
Michal Kalinský and Jana Marková
- AN11_4 Three-dimensional nature of contact between fibre and cement matrix considering the principles of contact mechanics
Anna Antonova, Marika Eik, Jouni Punkki and Jari Puttonen

C221 Sustainability and life cycle management (SUS)

Chairman: Petr Hájek

- SUS_1 Effect of PP fibres on flexural behaviour of concrete with RCAs – A preliminary study
Brecht Vandevyvere, Zeger Sierens, Miquel Joseph, Paul Jonckheere, Luc Decraemer and Jiabin Li
- SUS_2 Experimental measurement of water absorption by model recycled concrete aggregates immersed in a filler or cement paste
Houda Maimouni, Sébastien Remond, Florian Huchet, Patrick Richard, Vincent Thierry and Yannick Descantes
- SUS_3 Performance prediction of concrete torrent control structures in Austria
Roman Paratscha and Alfred Strauss
- SUS_4 Efficiency investigation on electro-kinetic decontamination for concrete waste originated from nuclear power plants
Chanyoung Kim, Sungyeol Choi, Seungpil Kim and Myoungsu Shin

10:40 – 11:10 Coffee Break Atrium

11:10 – 12:50 Sessions

C215 Structural analysis and design 12 (AN12)

Chairman: Petr Bily

- AN12_1 A numerical insight on the behaviour of prestressed concrete members exposed to natural fires
Nataša Kalaba and Patrick Bamonte
- AN12_2 Numerical study on effect of steel fibres on the shear strength of reinforced concrete squat shear walls with opening
Sivaguru Viswanathan and G. Appa Raol

AN12_3 Evaluation of shear transfer capacity of reinforced concrete exposed to fire
Subhan Ahmad, Pradeep Bhargava and N.M. Bhandari

C217 Strengthening and repair 3 (REP3)

Chairman: Josef Novák

REP3_1 Textile reinforced concrete composites for existing structures: performance optimization via mechanical characterization
Marco C. Rampini, Giulio Zani, Matteo Colombo and Marco di Prisco

REP3_2 Behaviour of torsionally strengthened reinforced concrete beam-column joints with carbon fibre reinforced polymer sheets
Sarmad Ali and John Forth

REP3_3 Shear strengthening of structures with carbon reinforced concrete
Sebastian May, Alexander Schumann and Manfred Curbach

REP3_4 Technology of additional shear reinforcement for strengthening foundation slabs and its long-term monitoring
Jan Novacek and Milos Zich

C219 Structural analysis and design 13 (AN13)

Chairman: Radim Čajka

AN13_1 Probabilistic models for shear bond strength of clay and fly ash bricks
Santosini Sahu, Pradip Sarkar and Robin Davis

AN13_2 Investigation of the bond properties between textile reinforced concrete and extruded polystyrene foam
Panagiotis Kapsalis, Jolien Vervloet, Eleni Tsangouri, Svetlana Verbruggen, Dimitrios Aggelis, Tine Tysmans and Thanasis Triantafillou

AN13_3 The influence of the composite bridge exploitation on the behavior of the structure subjected to a dynamic load
Michał Jukowski, Ewa Błazik-Borowa, Janusz Bohatkiewicz, Jarosław Bęć and Mateusz Hypki

AN13_4 Numerical prediction of ballistic limit and failures of plain concrete slabs
Kamran Kamran and Mohammad Ashraf Iqbal

12:50 – 14:20

Lunch

Masarykova kolej

14:20 – 15:05 Keynote II B280

Can the structural be creative?

Hugo Corres Peiretti

15:05 – 15:20 Best paper award B280

15:20 – 16:00 Closing Ceremony B280

13th *fib* PhD Symposium

Jean-Michel Torrenti (French fib member group)

5th International *fib* Congress

Stephen Foster (The Concrete Institute of Australia)

12th *fib* PhD Symposium

Jan L. Vitek

POSTER SESSION ATRIUM

Advanced materials

- P001 Numerical modelling of cement-graphene composites
Małgorzata Krystek, Leszek Szojda and Marcin Górski
- P002 Lowering environmental impact from ultra high performance concrete, utilizing industrial by-products
Ingrid Lande Larsen, Rein Terje Thorstensen and Katalin Vertes
- P003 Effect of sodium hydroxide concentration and alkaline activator ratio on the mechanical properties of fly ash-based geopolymer binders
Adrian Lăzărescu, Henriette Szilagyi, Adrian Ioani and Cornelia Baeră
- P004 Influence of nanosilica on the mechanical properties and durability of cementitious materials
Gerlinde Lefever, Dimitrios G. Aggelis, Nele De Belie, Didier Snoeck and Danny Van Hemelrijck
- P005 Strength and microstructure of tungsten mining waste-based hybrid alkaline material: Effect of activators
Naim Sedira and João Castro-Gomes
- P006 Comparitive study of bond behaviour for different FRP and steel bars
Sandor Solyom and György L. Balázs

Innovative structures and details

- P007 Push-out shear tests for timber-UHPC composite footbridge
Milan Holý and Lukáš Vráblík
- P008 Numerical modeling of a composite wood-UHPFRC structure
Petr Kněž and Petr Bouška
- P009 Numerical analysis of bond between UHPC and steel reinforcement
Veronika Steinerová and Miroslav Černý
- P010 Composite glass – UHPC footbridge
Lucie Vošahlíková and Klára Machalická

Structural analysis and design

- P011 Punching shear resistance of flat slabs with openings – experimental testing
Tomáš Augustín, Ludovít Fillo, Jaroslav Halvonik and Marián Marčíš

- P012 Application of effective crack model in analysis of fracture response of chevron-notched core-based concrete specimen
Petr Halfar, Petr Frantík, Iva Rozsypalová, Petr Daněk, Hana Šimonová and Zbyněk Keršner
- P013 Testing of multi-layer concrete-based structures loaded by contact blast
Alena Horska, Josef Fladr and Alena Kohoutkova
- P014 Influence of concrete cover thickness on shear strength of concrete glass fiber reinforced polymer beams without stirrups
Monika Kaszubska and Renata Kotynia
- P015 Experimental investigation of the bond between SAS 670/800 reinforcement bars and highstrength concrete in a pull-out test
Magda Kijania-Kontak and Andrzej Winnicki
- P016 Nonlinear analysis of reinforced concrete elements of the example of the existing RC two – way slab floor
Joanna Kujda, Izabela Skrzypczak and Lidia Buda-Ożóg
- P017 Numerical model of the approach slab with gap functionality
Kamil Laco and Viktor Borzovič
- P018 Experimental verification of a method in development for predicting the punching shear strength of flat slabs
Lukáš Lyčka and Petr Štěpánek
- P019 On the criterion of the limit state for concrete
Hammoud Mohammad, Valeriy Shmukler, Petro Reznik and Olena Petrova
- P020 Numerical simulation for horizontal tunnels with vertical alignment affected by static and dynamic loads
Jaafar Mohammed and Eva Hrubesova
- P021 Numerical analysis of the partial collapse of a twin-tubes tunnel
Ahmed Rouili, Mabrouk Touahmia and Youcef Djerbib
- P022 Experimental study of elastic modulus using standard tests and optical measurements
Marcin Tekieli, Magda Kijania-Kontak and Andrzej Winnicki
- P023 Case study: Price comparison of three post-tensioned flat slabs beside classic flat slabs from three existing structures/under construction
Iosif Török, Attila Puskás and Jácint Virág
- P024 Transfer length of GFRP rebars for pretensioned elements
Adrián Valašík, Vladimír Benko and Anton Sivčák
- P025 Tests of shear capacity of deck slabs under concentrated load
Radoslav Vida and Jaroslav Halvonik

- P026 Influence of basalt mesh induced by increase of heterogeneity of cement composites on its resistance under near-field blast
Jakub Zíma and Marek Foglar

Strengthening and repair

- P027 Post – installed shear reinforcement in flat slabs
Ondrej Keseli, Juraj Bilčík and Marián Marčíš
- P028 Load transfer in horizontally prestressed masonry wall
Robin Peknik, Ladislav Klusacek, Zdenek Bazant, Michal Pozar and Petr Duchac

Monitoring and structural assessment

- P029 Effects of moisture contents on the diffusion of ultrasound in concrete
Eunjong Ahn and Myoungsu Shin
- P030 Concept of repair and proposals for reconstruction of the vault structures of Liben Bridge
Marek Blank and Petr Bouška
- P031 Static and dynamic load tests of Libeň bridge over Vltava river in Prague with comparison to FEA model results
Jan Mourek and Petr Bouška
- P032 Partial problems during long-term monitoring of concrete bridges after reconstruction
Martin Olsak, Ladislav Klusacek and Radim Necas

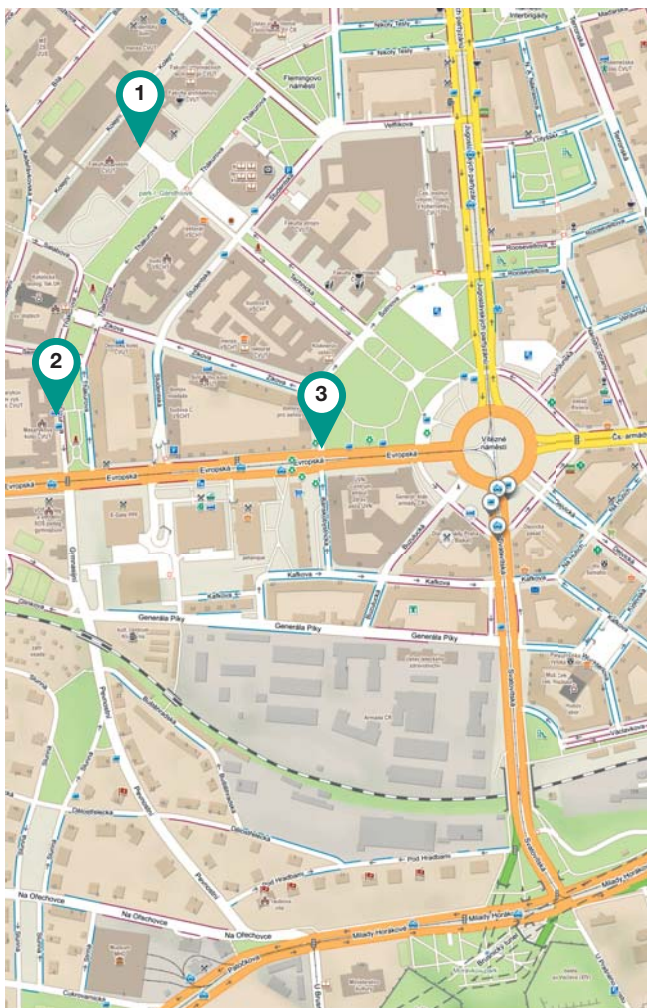
Durability and life assessment

- P033 The influence of concrete composition on its modulus of elasticity: comparison of experiment and values from Eurocode 2
Romana Halamová, Dalibor Kocáb and Tomáš Vymazal
- P034 Effect of carbonation on dimensional change of cement paste
Kiyofumi Nakada and Takafumi Noguchi
- P035 Bio-based self-healing concrete: A review
Hana Schreiberová, Alena Kohoutková, Petr Bílý and Pavla Ryparová
- P036 Transformation of accelerated corrosion tests results for the prediction of the reinforcement corrosion in practice
Miroslav Strieška, Peter Koteš and Miroslav Brodňan
- P037 Comparison of properties of recycled concrete aggregate with naturel aggregate
Tomáš Trtík, Petr Bílý, Josef Fládr and Jitka Vašková

Sustainability and life cycle management

- P038 Variant design of concrete structure in relation to durability of the structure and environmental impacts
Anna Horáková, Alena Kohoutková and Iva Broukalová
- P039 Study on performance characteristics of pervious concrete made of various types of locally available aggregate
Marek Kováč, Alena Sičáková and Karol Urbán
- P040 Influence of cement replacement by admixture on mechanical properties of concrete
Roman Chylík and Karel Šeps

INDICATIVE PLAN



CAPTION:

- 1 venue – ČVUT FSV Thákurova 7, Praha 6
- 2 lunch – ČVUT Masarykova kolej, Thákurova 1, Praha 6
- 3 subway – Dejvická station



COMMENT

