



BCCM4

4th Brazilian Conference on Composite Materials



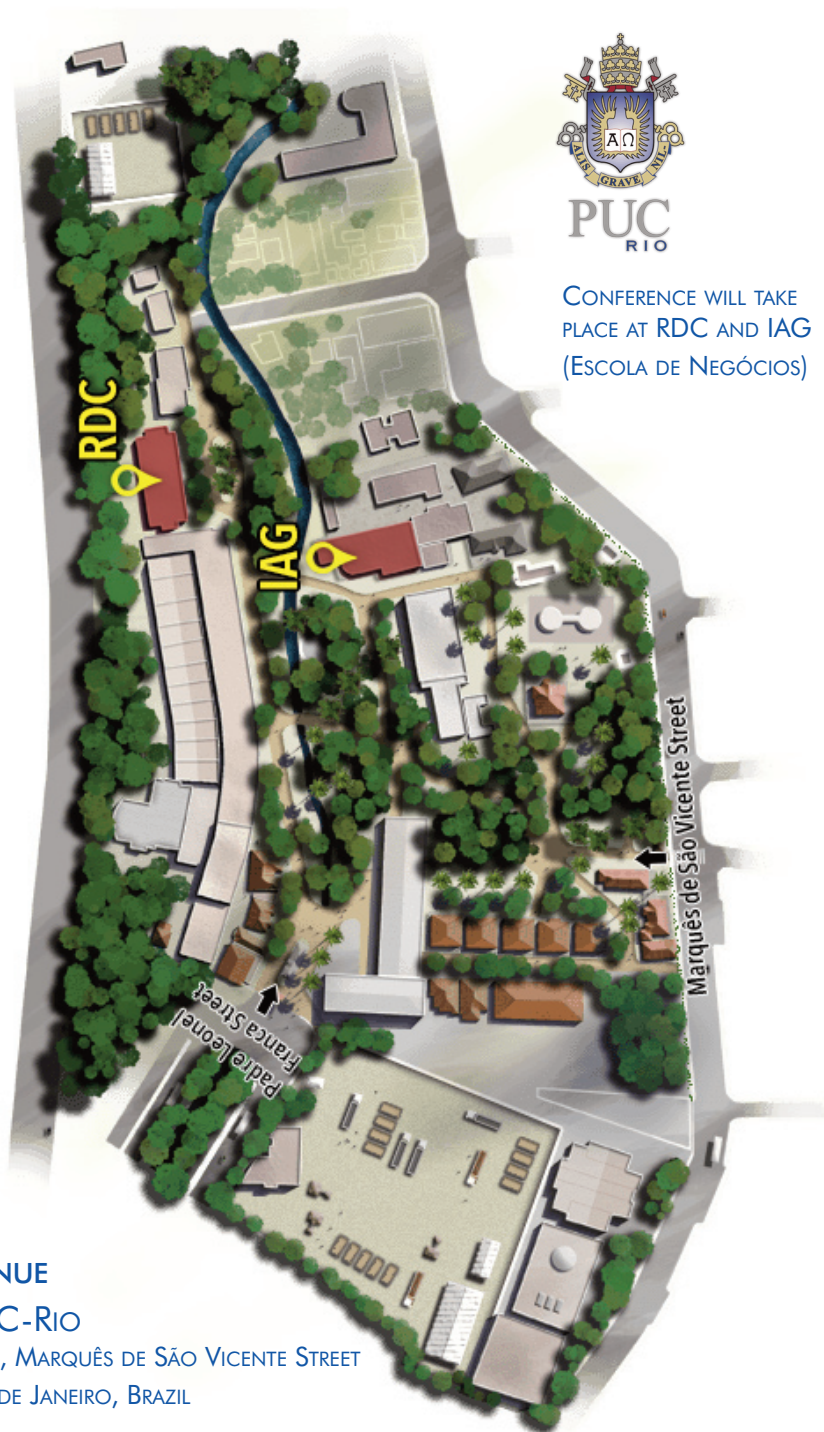
Rio de Janeiro
PUC-Rio 2018
July 22nd to 25th

CONFERENCE PROGRAM

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CONFERENCE WILL TAKE
PLACE AT RDC AND IAG
(ESCOLA DE NEGÓCIOS)



VENUE

PUC-Rio

225, MARQUÊS DE SÃO VICENTE STREET

RIO DE JANEIRO, BRAZIL

The logo for BCCM4 features the text "BCCM4" in a bold, sans-serif font. The letters "B", "C", "C", and "M" are blue, while the "4" is green. Above the text is a stylized silhouette of a mountain range in a light gray color.

BCCM4

4th Brazilian Conference on Composite Materials

Welcome to BCCM4!

The 4th Brazilian Conference on Composite Materials is hosted by Pontifical Catholic University of Rio de Janeiro in Rio de Janeiro, Brazil, from July 22nd to 25th, 2018. It is the fourth event of a series of biannual international conferences on composite materials.

BCCM4 is intended to bring together students, researchers from academia and industry to share and discuss recent developments in the field.

July 22 nd , 2018 - Sunday			
TIME	SESSION	TITLE	SPEAKER
12:00 - 16:00		Registration	
13:00 - 16:00	Short Courses	Short Course 1 - Mechanical testing systems and techniques – MTS – Yunming Hu Short course 2 - Modeling and Simulation of Composite Manufacturing Processes – Suresh G. Advani, University of Delaware Short Course 3 - Image Analysis for Materials Characterization - An introduction based on a free software – Karen Soares Augusto, PUC-Rio (in Portuguese)	
16:20 - 17:00	Opening Ceremony <i>RDC auditorium</i>	Welcome address by Conference Chairman	Flávio A. Silva
17:00 - 17:40	Plenary <i>RDC auditorium</i> <i>Chairperson: Daniel Cardoso</i>	Issues in the stability behaviour of pultruded GFRP members	Kent Harries (University of Pittsburgh, USA)
18:00 - 20:00		Welcome Cocktail	

July 23 rd , 2018 - Monday		AMEX Room - Morning	
TIME	SESSION	TITLE	SPEAKER
7:30 - 8:30		Registration	
8:30 - 9:10	Plenary <i>RDC auditorium</i> <i>Chairperson: Veronica Calado</i>	Multi-scale Modeling and Simulation of Composite Manufacturing Processes	Suresh Advani (University of Delaware, USA)
9:20 - 9:35	Durability, Ageing and Aggressive Environment	Effect of accelerated aging on the mechanical and physical properties of thermoset polymers	Francisco Margotti dos Santos (UFSJ)
9:35 - 9:50		Effects of aging in carbon fiber reinforced polymer composites exposed to natural environment	Larissa Raquel Pinheiro de Brito (UFRN)
9:50 - 10:05	Chairperson: <i>Sergio Pezzin</i>	Effect of gamma-radiation on thermal ageing of butyl rubber compounds	Sandra Regina Scagliusi (IPEN)
10:20 - 10:35		Coffee Break	
10:35 - 10:55		<i>Keynote: FRP Reinforcement for Concrete - Coming of Age</i>	Antonio Nanni (University of Miami, USA)
10:55 - 11:10	FRP for Internal and External Reinforcement of Concrete Structures	Flexural strengthening of reinforced concrete beams with CFRP and steel bars in covering concrete	Ana Maria Abreu Jorge Teixeira (IME)
11:10 - 11:30		<i>Keynote: Quality and Durability of Constructions: The use of GFRP as substitute of steel reinforcement in reinforced Concrete and Ferrocement</i>	Hugo Wainshtok Rivas (Universidad Tecnológica de La Habana, Cuba)
11:30 - 11:45	Chairperson: <i>Martin Noel</i>	Impact damaged pier strengthening using heavy CFRP fabric	Issam Harik (University of Kentucky, USA)
11:45 - 12:00		Accelerated testing of the durability of FRP bars - bond behavior and mechanical properties	Sandor Solymom (Budapest University of Technology and Economics, Hungary)
12:00 - 12:15		Contribution of Shear Transfer Mechanisms and Strength of GFRP Reinforced Concrete Beams	Daniele Pacheco (PUC-Rio)
12:25 - 13:25		Lunch	

July 23 rd , 2018 - Monday		Room 2 - Morning	
TIME	SESSION	TITLE	SPEAKER
7:30 - 8:30		Registration	
8:30 - 9:10	Plenary <i>RDC auditorium</i> <i>Chairperson: Veronica Calado</i>	Multi-scale Modeling and Simulation of Composite Manufacturing Processes	Suresh Advani (University of Delaware, USA)
9:20 - 9:35		Development of partially biodegradable foams from pp/hmspp blends with natural and synthetic polymers	Elizabeth Carvalho Leite Cardoso (IPEN)
9:35 - 9:50	Physical and Mechanical Properties 1	Development and characterization of carbon fiber reinforced thermoplastics – part a: processing, thermal and rheological properties	Bruno Jordão Lopes (PUC-Rio)
9:50 - 10:05	Chairperson: <i>José Ricardo Tarpani</i>	Development and characterization of carbon fiber reinforced thermoplastics – part b: mechanical properties and microstructural analysis	Bruno Jordão Lopes (PUC-Rio)
10:05 - 10:20		Nanocellulose-coated carbon fibers towards developing hierarchical polymer matrix composites	José Ricardo Tarpani (USP)
10:20 - 10:35		Coffee Break	
10:35 - 10:55		<i>Keynote:</i> Composite R&D challenges for aerostructures	Luciana Marques (EMBRAER)
10:55 - 11:10	Composites for the Aeronautical Industry	Effect of the atmosphere in the ablation of carbon-phenolic composites used in thermal protection reentry	Edison Bittencourt (ITA)
11:10 - 11:30		<i>Keynote:</i> Toward an empirical model for impact damage morphology in plates supported by a circular boundary	Andrew Rhead (University of Bath, UK)
11:30 - 11:45	Chairperson: <i>Volnei Tita</i>	A fast method for preliminary evaluation of chemical erosion on a composite nozzle	Flávia Okamoto Untem (Avibrás)
11:45 - 12:00		Design and manufacturing process of a uav composite wing spar	Pablo Milheiro (PUC-Rio)
12:25 - 13:25		Lunch	

July 23 rd , 2018 - Monday		Room 3 - Morning	
TIME	SESSION	TITLE	SPEAKER
7:30 - 8:30		Registration	
8:30 - 9:10	Plenary <i>RDC auditorium</i> <i>Chairperson: Veronica Calado</i>	Multi-scale Modeling and Simulation of Composite Manufacturing Processes	Suresh Advani (University of Delaware, USA)
9:20 - 9:35		Strength of Metal/Composite Adhesive Joints with Novel Interlocking Reinforcement	Mark O'Brien (University of Limerick, Ireland)
9:35 - 9:50	Repair and Joining Techniques 1	Using blister test to predict the failure pressure in bonded composite repaired pipes	Silvio de Barros (CEFET-Rio)
9:50 - 10:05	Chairperson: <i>Silvio de Barros</i>	Effects of aging on glass fiber – epoxy repair material for oil pipelines	Mirella Lopes da Rocha (UFRN)
10:05 - 10:20		The effect of aluminium surface treatments on the apparent shear strength of hybrid epoxy single-lap joints	Rodrigo T.S. Freire (UFSJ)
10:20 - 10:35		Coffee Break	
10:35 - 10:55		<i>Keynote:</i> Advanced cement based composites: an asset for civil engineering to face the XXI century societal and economical challenges	Liberato Ferrara (Politécnico di Milano, Italy)
10:55 - 11:10		Study of cracking pattern and evolution on natural textile reinforced concrete by image analysis	Leticia Oliveira de Souza (PUC-Rio)
11:10 - 11:30	Cement Based Composites 1	<i>Keynote:</i> Developing reinforced foam concrete as a composite material for durable structural application	Gideon van Zijl (Stellenbosch University, South Africa)
11:30 - 11:45	Chairperson: <i>Antoine Naaman</i>	Further analysis on hornification promotion by washing cycles on natural vegetable fibers	Saulo Rocha Ferreira (UFLA)
11:45 - 12:05		<i>Keynote:</i> Nonconventional composite materials based on agro-industry byproducts for housing applications	Holmer Savastano (USP - Pirassununga)
12:05 - 12:20		Steel fibers addition effect on tensile strength of concrete	Mayara Delonzek Toledo da Silva (UNIPAMPA)
12:20 - 12:35		Mechanical behavior of macro-synthetic fiber reinforced concretes exposed to high temperature environments	Dimas Rambo (USP/USJT)
12:35 - 13:25		Lunch	

July 23 rd , 2018 - Monday		AMEX Room - Afternoon	
TIME	SESSION	TITLE	SPEAKER
13:25 - 14:05	Plenary <i>RDC auditorium</i> <i>Chairperson: Kim Pickering</i>	Advanced Green Composites: New Directions	Anil Netravali (Cornell University, USA)
14:15 - 14:30	Simulation in Composites 1 <i>Chairperson: Evandro Parente</i>	Composite Structural Behaviour Prediction with the Surrogate Model and Trace-Based Approach	Eduardo Gerhardt (SENAI)
14:30 - 14:45		Dynamic analysis of composite structures using kriging model applied to manufacturing design tolerances	Ricardo de Medeiros (UDESC)
14:45 - 15:00		Design optimization of a composite pressure vessel using fea and derivative based method	Luiz G. Oliveira (UDESC)
15:15 - 15:30	Coffee Break		
15:30 - 15:45	Lignocelulosic and Green Composites 2 <i>Chairperson: Anil Netravali</i>	Mechanical characterisation of natural intralaminar hybrid composites reinforced with jute+curauá	Daniel Kioshi Kawasaki Cavalcanti (CEFET-Rio)
15:45- 16:00		Comparative study on the properties of comercial and sugarcane bagasse lignins for gas adsorption applications	Sérgio Leandro Soares Itajahy Pinto da Costa (UFRJ)
16:00 - 16:15		Cold-pressed hybrid polyester composites containing short sisal fibres and ceramic micro particles	Nayara Loiola de Oliveira (UFSJ)
16:15 - 16:30		Evaluation of thermal behavior and cure kinetics of a curauá fiber prepreg by non-isothermal method	Vilson Dalla Libera Junior (UnB)
16:30 - 16:45		Water absorption study in composites of epoxy matrix using as reinforcement fiber: sical natural, acetylated and modified with aluminium oxide hydrated	Caio Henrique Pinheiro (USP)
16:45 - 17 :00		Effect of fibers alkali treatment on thermal behaviour of curauá/polyester composites	Lincoln Araujo Teixeira (UnB)

July 23 rd , 2018 - Monday		Room 1 - Afternoon	
TIME	SESSION	TITLE	SPEAKER
13:25 - 14:05	Plenary <i>RDC auditorium</i> <i>Chairperson: Kim Pickering</i>	Advanced Green Composites: New Directions	Anil Netravali (Cornell University, USA)
14:15 - 14:30	Cement Based Composites 2 <i>Chairperson: Conrado Rodrigues</i>	The Influence of Carbon Nanotubes on the Fracture Energy, Flexural and Tensile Behaviour of Cement Based Composites	Vanessa Vilela Rocha (CEFET-MG)
14:30 - 14:45		Use of latex in cellulose fibers and replacement with metacaulim for application in composites with cement matrix	Rondinele Alberto dos Reis Ferreira (UFU)
14:45 - 15:00		Effect of viscosity modifier admixture on portland cement hydration	Stefan Figueiredo (TU Delft, The Netherlands)
15:00 - 15:15		Study on the mechanical behavior of cementitious composites produced with mineral and reinforced additions with jute fabric	Nadine Ficher (UNIPAMPA)
15:15 - 15:30		Coffee Break	
15:30 - 15:45	Glare and Fiber-Metal Laminates <i>Chairperson: Carlos Alberto Cimini</i>	Carbide Composite Coatings on Steel by Thermal Reactive Diffusion	Mansour Soltanieh (Iran University of Science and Technology, Iran)
15:45 - 16:00		Thermal behavior of polymer metal hybrids of hot stamped steel and fiber-reinforced thermoplastics	Michael Demes (TU-Braunschweig, Germany)
16:00 - 16:15		Integral Manufacturing of Plastic-Metal Hybrids Consisting of Endless Fiber Reinforcement Using Injection Molding	Tobias Gebken (TU-Braunschweig, Germany)
16:15 - 16:30		Impact behavior of Glare™ hybrid laminate under extreme thermal conditions	José Ricardo Tarpani (USP)
16:30 - 16:45		Influence of the electrochemical treatment of aluminum 2024 t3 for application in cf/ epoxi/aluminum composites	Alberto Lima Santos (UNESP)
16:45 - 17:00		Experimental Study of the Tensile Strength of Open-Hole Fiber-Metal Laminates	Thays Alessandra Barreto (UFABC)
17:00 - 17:15		Crack growth resistance curves of bidirectional GLARE laminates by normalization method	João Teixeira Oliveira de Menezes (COPPE/UFRJ)

July 23 rd , 2018 - Monday		Room 2 - Afternoon	
TIME	SESSION	TITLE	SPEAKER
13:25 - 14:05	Plenary RDC auditorium Chairperson: Kim Pickering	Advanced Green Composites: New Directions	Anil Netravali (Cornell University, USA)
14:15 - 14:30	Lignocelulosic and Green Composites 1 Chairperson: Maria Odila	Mechanical characterization of jute/sisal natural hybrid polyester composite	Rosemere de Araujo Alves Lima (CEFET-Rio)
14:30 - 14:45		Eco-friendly sodium bicarbonate treatment and its effect on epoxy/polyester coir fibre composites	Livia Ávila de Oliveira (UFSJ)
14:45 - 15:00		Influence of environmental degradation on the mechanical performance of polymeric composites reinforced by licuri fibers	Alexandre S. Moraes (Bahia Federal Institute of Education, Science and Technology)
15:15 - 15:30		Coffee Break	
15:30 - 15:50	Analytical Methods and Multi-Scale Modelling Chairperson: José Daniel	<i>Keynote:</i> Creep and Fatigue behavior of Composite Structures	Sung Ha (Hanyang University, Korea)
15:50 - 16:10		<i>Keynote:</i> Use of online dedicated software MECHG-comp for the micromechanical analysis of composites	Sandro Amico (UFRGS)
16:10 - 16:25		Hybrid Composites: Experimental and Analytical Assessment Aided by Online Software	Eduardo Antonio Wink de Menezes (UFRGS)
16:25 - 16:40		Micromechanical models for transversal elastic modulus in unidirectional laminates	Lucas Lisboa Vignoli (UFRJ)
16:40 - 16:55		A Continuum Damage Model For Bolted Joint Failure Prediction In Fiber-Reinforced Composites	José Jerônimo Rabelo Faria (ITA)
16:55 - 17:10		Elastoplastic residual stresses in composite beams - a semi-analytical study	Paulo Pedro Kenedi (CEFET-Rio)
17:10 - 17:25		Thermoelastic analytical solution for 2D composite laminates	André Schwanz de Lima (ITA)
17:25 - 17:40		Critical Review of Displacement Based Laminate Theories and Modeling Techniques	André Schwanz de Lima (ITA)

July 23 rd , 2018 - Monday		Room 3 - Afternoon	
TIME	SESSION	TITLE	SPEAKER
13:25 - 14:05	Plenary RDC auditorium Chairperson: Kim Pickering	Advanced Green Composites: New Directions	Anil Netravali (Cornell University, USA)
15:15 - 15:30		Coffee Break	
15:30 - 15:50	FRP for Civil Engineering Applications Chairperson: Kent Harries	<i>Keynote:</i> Composites in construction: A Canadian experience	Martin Noel (University of Ottawa, Canada)
15:50 - 16:05		Local Buckling of Pultruded GFRP I-Section Subject to Bending	Janine Vieira (UFF)
16:05 - 16:25		<i>Keynote:</i> Five-Element Models for Long-Term Response of pGFRP Members	Daniel Cardoso (PUC-Rio)
16:25 - 16:40		Experimental fatigue behavior of pultruded glass fibre reinforced polymer composite materials	Priscilla Shimba Carneiro Vieira (PUC-Rio)
16:40 - 16:55		Rotational Stiffness Characterization of Pultruded GFRP Cross-Section Junctions	Gisele Cintra (PUC-Rio)
16:55 - 17:10		Experimental analysis of a GFRP dismountable truss bridge	Ana Maria Teixeira (IME)
17:10 - 17:25		Curved pultruded unidirectional carbon fiber composite under interlaminar shear fatigue loading	Maikson Luiz Passaia Tonatto (UFSJ)
17:25 - 17:40		Probabilistic Fatigue Life Modelling of FRP composites	Martin Noel (University of Ottawa, Canada)

July 24 th , 2018 - Tuesday		AMEX Room - Morning	
TIME	SESSION	TITLE	SPEAKER
7:30 - 8:30		Registration	
8:30 - 9:10	Plenary <i>RDC auditorium</i> Chairpersons: José Daniel & Carlos Cimini	Double-double Laminates and their design and manufacturing innovations	Stephen Tsai (Stanford University, USA)
9:20 - 9:35		Dynamic mechanical analysis of epoxy composites reinforced with short glass fibers	Sergio Pezzin (UDESC)
9:35 - 9:50	Experimental Techniques 1	Experimental evaluation of temperature effect on the transverse permeability of a fibrous preform	Eduardo Kerche (UFRGS)
9:50 - 10:05	Chairperson: <i>Sung Ha</i>	Mechanical analysis of webbing tests with and without preloads	Andres Heemann Pereira Neto (UFRGS)
10:05 - 10:20		Electromagnetic characterization of psu/carbon black multifunctional composites	Tiago Teixeira da Silva Braga (UNESP)
10:20 - 10:35		Coffee Break	
10:35 - 10:55		<i>Keynote:</i> Fiber reinforced concrete: Five decades of progress	Antoine Naaman
10:55 - 11:10		Dowel Action Characterization in Reinforced Steel Fiber Concrete Beams	Thomas Resende (PUC-Rio)
11:10 - 11:30	Cement Based Composites 3	<i>Keynote:</i> An overview on the application of FRC as a structural material in Brazil and future trends	Antonio Figueiredo (USP)
11:30 - 11:45	Chairperson: <i>Gideon van Zijl</i>	Probabilistic Analysis of Load Capacity in a Fiber Reinforced Concrete	Marcello Congro (PUC-Rio)
11:45 - 12:00		Mechanical behavior of polypropylene, steel and hybrid fiber self-consolidating concrete: materials and structural aspects	Vitor Monteiro (PUC-Rio)
12:00 - 12:15		Weibull analysis of Portland cement paste and luffa fibers composites	Henry Colorado (Universidad de Antioquia, Colombia)
12:15 - 12:30		The Influence of Recycled Paper on the Mechanical Behavior, Durability and Shrinkage of Industrial Mortars	Rafael Vieira (RioMix)
12:30 - 13:25		Lunch	

July 24 th , 2018 - Tuesday		Room 1 - Morning	
TIME	SESSION	TITLE	SPEAKER
7:30 - 8:30		Registration	
8:30 - 9:10	Plenary <i>RDC auditorium</i> Chairpersons: José Daniel & Carlos Cimini	Double-double Laminates and their design and manufacturing innovations	Stephen Tsai (Stanford University, USA)
9:20 - 9:35		Isogeometric analysis of fgm plates	Samir Parente Auad (UFC)
9:35 - 9:50	Simulation in Composites 2	Multiobjective optimization of composite risers	Marina Alves Maia (UFC)
9:50 - 10:05	Chairperson: <i>Antonio Ferreira</i>	Application of convolutional neural networks in the prediction of dynamic fracture initiation of composite materials	Guilherme Londres (UFRJ)
10:05 - 10:20		Artificial neural networks applying to detect damage in carbon fiber/epoxy composite	Ricardo de Medeiros (UDESC)
10:20 - 10:35		Coffee Break	
10:35 - 10:50		Analysis of a novel interlocking adhesive joining technology for composite-metal structures	Michael Corbett (University of Limerick, Ireland)
10:50 - 11:05	Repair and Joining Techniques 2	Effects of bond thickness on the Cohesive Zone Model parameters in mode I of a high toughness structural adhesive	Marcello Henrique Rodrigues de Oliveira (UFMG)
11:05 - 11:20		Evaluation of the Influence of Metal-Composite Adhesive Joints for Structural Repairs of FPSO-type Platform Hulls (Floating Production Storage and Offloading)	Carolina Mendes Gomes (CEFET-Rio)
11:20 - 11:35		Study of the effect of superficial treatment on the adherence of pultruded composite joints	Ana Carolina Viana Passos (CEFET-Rio)
11:35 - 11:50	Chairperson: <i>José Ricardo Tarpani</i>	Multi-Material Adhesive Joints for Automotive Industry	Doina Mariana Banea (CEFET-Rio)
12:25 - 13:25		Lunch	

July 24 th , 2018 - Tuesday		Room 2 - Morning	
TIME	SESSION	TITLE	SPEAKER
7:30 - 8:30		Registration	
8:30 - 9:10	Plenary <i>RDC auditorium</i> <i>Chairpersons: José Daniel & Carlos Cimini</i>	Double-double Laminates and their design and manufacturing innovations	Stephen Tsai (Stanford University, USA)
10:20 - 10:35		Coffee Break	
10:35 - 10:55		<i>Keynote:</i> Design of CFRP laminates using invariants	José Daniel Diniz Melo (UFRN)
10:55 - 11:10	Damage and Fracture Chairperson: <i>Sandro Amico</i>	Notched strength of symmetric angle-ply laminates	Lucas Lisboa Vignoli (UFRJ)
11:10 - 11:25		Evaluation of interlaminar fracture strength of PEI/MWCNT/Carbon fibers composites subjected to hygrothermal and UV radiation conditioning	Luis Felipe de Paula Santos (UNESP)
11:25 - 11:45		<i>Keynote:</i> Effects of 3D out-of-plane stresses on damage initiation and progression of OHT and OHC in laminated composites	Carlos Alberto Cimini Jr (UFMG)
11:45 - 12:00		Quasi-static indentation and low-velocity impact response of aramid/epoxy composites	Stephanie Gonçalves Nunes (UFRGS)
12:00 - 12:15		Niobium oxide (NB2O5) filled high modulus polyethylene extrudable (hmpex) composites: tensile properties	João Pedro Coré Pinto (UERJ)
12:30 - 13:25		Lunch	

July 24 th , 2018 - Tuesday		Room 3 - Morning	
TIME	SESSION	TITLE	SPEAKER
7:30 - 8:30		Registration	
8:30 - 9:10	Plenary <i>RDC auditorium</i> <i>Chairpersons: José Daniel & Carlos Cimini</i>	Double-double Laminates and their design and manufacturing innovations	Stephen Tsai (Stanford University, USA)
9:20 - 9:35		Effect of the residual fine elements and contribution on fresh properties of self-levelling mortars	Janaide Cavalcante Rocha (UFSC)
9:35 - 9:50	Cement Based Materials	Effect of steel fibers on compressive strength of concrete: casting direction and boundary conditions	Matthews Vargas Vaucher Bandeira (UNIPAMPA)
9:50 - 10:05	Chairperson: <i>Lourdes Souza</i>	Compressive Stress-Strain Behaviour of R-Pet Fibre Reinforced Mortars	Matheus Soares Viana Fernandes (UERJ)
10:05 - 10:20		Evaluation of interactions between retarding admixtures and fine materials in long-term flowability of cementitious materials	Janaide Cavalcante Rocha (UFSC)
10:20 - 10:35		Coffee Break	
10:35 - 10:55		<i>Keynote:</i> Advanced high temperature testing solutions for PMC and CMC composites	Yunming Hu (MTS)
10:55 - 11:10		Comparison of complex modulus provided by three different dynamic mechanical analyzers	Isadora Ruas Henriques (UFRJ)
11:10 - 11:25	Experimental Techniques 2	Applications and advances of the active thermography for the inspection of composite materials used in industry	Marcella Grosso (UFRJ)
11:25 - 11:40	Chairperson: <i>Sérgio Pezzin</i>	Assessment of residual elastic modulus of a 5hs woven laminate by the use of impulse excitation technique	Maísa Milanez Ávila Dias Maciel (UNESP)
11:40 - 11:55		Differences between DMA modes and testing equipments	Isadora Ruas Henriques (UFRJ)
11:55 - 12:10		Tridimensional characterization of epoxy matrix glass-fiber reinforced composites	Lorenleyn De la Hoz Alford (PUC-Rio)
12:10 - 12:25		Assessment of particle reinforced composites based on full factorial and simplex-lattice designs	Bernardo Franco Rufini (UFSJ)
12:25 - 13:25		Lunch	

July 24 th , 2018 - Tuesday		AMEX Room - Afternoon	
TIME	SESSION	TITLE	SPEAKER
13:25 - 14:05	Plenary <i>RDC auditorium</i> <i>Chairperson: Volnei Tita & Silvio de Barros</i>	A review on modelling of laminated plates and shells	Antonio Ferreira (Universidade do Porto, Portugal)
14:15 - 14:30	Physical and Mechanical Properties 2 <i>Chairperson: Henry Colorado</i>	Evaluation of moisture absorption effects on mechanical behavior of hybrid glass/carbon fibers epoxy matrix composites	Leonardo Meira Ottolini (PUC-Rio)
14:30 - 14:45		Effects of the addition of poly(ethylene-co- methyl acrylate-co-glycidyl methacrylate) to glass-fiber/epoxy laminates for self-healing purposes	Lilian Maiara Morais e Silva (UFRN)
14:45 - 15:00		Effect of Polypropylene Grade and Carboxylic Acid Addition on the Surface Properties of Pp/Thermoplastic Starch	Andrea Bercini Martins (UFRGS)
15:00 - 15:15		Study of mechanical properties of composite with silicone matrix to mimetizate biological tissue	Marcio Gabriel Moura Netto (UFF)
15:15 - 15:30	Coffee Break		
15:30 - 15:50	Cement Based Composites 5 <i>Chairperson: Holmer Savastano</i>	<i>Keynote:</i> A therman conductivity model for rubberised mortar	Eddie Koenders (TU Darmstadt)
15:50- 16:10		<i>Keynote:</i> Performance of extruded fiber-cement composites with hybrid reinforcement of jute fibers and cellulose nanofibrils	Gustavo Tonoli (UFLA)
16:10 - 16:25		Mechanical characterization of concrete reinforced with composite glass macrofibre	Joelma Manzoni (USP)
16:25 - 16:40		Effect of barley residue on the mixed-mode fracture properties of polymer mortars	Joao Marciano Laredo dos Reis (UFF)
16:40 - 16:55		Experimental assessment of the effect of plasticizing and air-entraining additives on mechanical properties of refractory cement composite	Marcel Jogl (Czech Technical University in Prague, Czech Republic)
16:55 - 17:10		Brazilian splitting test – experimental and numerical analysis	Marcelo De Simone (PUC-Rio)
17:10 - 17:25		Lightweight bioconcrete production using the Cereus jamacaru cactus wood	Mariana Nayara Lima da Silveira (UFLA)
17:25 - 17:40		Mechanical and bond behavior of carbon textile reinforced concrete under tensile loading	Rebecca Mansur de Castro Silva (PUC-Rio)

July 24 th , 2018 - Tuesday		Room 1 - Afternoon	
TIME	SESSION	TITLE	SPEAKER
13:25 - 14:05	Plenary <i>RDC auditorium</i> Chairperson: Volnei Tita & Silvio de Barros	A review on modelling of laminated plates and shells	Antonio Ferreira (Universidade do Porto, Portugal)
14:15 - 14:30	Cement Based Composites 4 Chairperson: Antonio Figueiredo	Influence of low content of steel fibre on concretes produced with recycled coarse aggregates with different levels of density	Antonio Figueiredo (USP)
14:30 - 14:45		Toughness analysis of steel fiber reinforced concrete by pullout test	Conrado S. Rodrigues (CEFET-MG)
14:45 - 15:00		Flexural behavior of under-reinforced steel fiber concrete (R/SFRC) beams	Gabriel Saraiva (PUC-Rio)
15:00 - 15:15		Performance evaluation of prestressed concrete sleepers reinforced with steel fibers	Paula Toraldo (PUC-Rio)
15:15 - 15:30		Coffee Break	
15:30 - 15:45	Geopolymer Composites Chairperson: Silvio de Barros	Compatibility and adhesion of MK/BFS alkali-activated repair mortars to Portland cement concrete substrates	Vitor Alencar Nunes (CEFET-MG)
15:45- 16:00		On the mechanical performance of alkali-activated mortars reinforced with short PVA fibers	Raquel Pereira Batista (CEFET-MG)
16:00 - 16:15		Mechanical response of geopolymer composites reinforced with distinct types of fibers	Ana Carolina Constância Trindade (PUC-Rio)
16:15 - 16:30		Comparison of fibre-matrix adhesion on reinforced geopolymer composite with different types of fibers	Lais Amaral Alves (CEFET-Rio)
16:30 - 16:45		Manufacture of low-density geopolimer composites by the incorporation of expanded polystyrene beads	Vitor Rezende Alves (CITEC-UFSJ)
16:45 - 17 :00		Resistance to compression and analysis of the microstructure of metacaulinite-based geopolmeric mortar	Gleicyanne Oliveira de Souza Portela (UFAM)

July 24 th , 2018 - Tuesday		Room 2 - Afternoon	
TIME	SESSION	TITLE	SPEAKER
13:25 - 14:05	Plenary <i>RDC auditorium</i> <i>Chairperson: Volnei Tita & Sílvia de Barros</i>	A review on modelling of laminated plates and shells	Antonio Ferreira (Universidade do Porto, Portugal)
14:15 - 14:30	Processing and Manufacturing <i>Chairperson: Laura Hecker</i>	Preparation and characterization of extruded pbat/organoclay films	Laura Hecker de Carvalho (UFCG)
14:30 - 14:45		Influence of slippage coefficient on the non-geodesic return trajectory at mandrels extremities in filament winding process	Ingo Dalibor (UFRGS)
14:45 - 15:00		Comparison of carbon fiber and epoxy resin composites processed by rtm and compression	Ana Carolina Mendes Quintanilha Silva Santos (UNESP)
15:15 - 15:30	Coffee Break		
15:30 - 15:50	Nanocomposites 1 <i>Chairperson: Veronica Calado</i>	<i>Keynote:</i> Assessing effectiveness and adhesion of nanoreinforcements in polyvinylbutyral by dynamic-mechanical analysis	Sergio Pezzin (UDESC)
15:50 - 16:05		Nanocellulose filled biobased polyurethane foams	Eduardo Fischer Kerche (UFRGS)
16:05 - 16:20		Injected nanocomposites of thermoplastic starch and poly (butylene succinate) blends with cellulose nanocrystals	Pedro Ivo C. Claro (UFSCAR)
16:20 - 16:35		Effects of TTNT addition in wear behavior of polyamide 11	Ayrton Alef Castanheira Pereira (PUC-Rio)
16:35 - 16:50		Biocidal effect of microfiltration membranes impregnated with silver nanoparticles	Aline Marques Ferreira Linhares (UFRJ)
16:50 - 17:05		Amine groups functionalization of boron nitride nanotubes: obtention, preparation, and characterization of nanocomposites.	Andreza de Souza Andrada (UNIFEI)
17:05 - 17:20		Effect of stretching on a polypropylene matrix containing nanoparticles for application in textiles technology	Luana Marques Ferreira (Instituto de Macromoléculas)

July 24 th , 2018 - Tuesday		Room 3 - Afternoon	
TIME	SESSION	TITLE	SPEAKER
13:25 - 14:05	Plenary <i>RDC auditorium</i> <i>Chairperson: Volnei Tita & Silvio de Barros</i>	A review on modelling of laminated plates and shells	Antonio Ferreira (Universidade do Porto, Portugal)
14:15 - 14:30	Physical and mechanical properties 3 Chairperson: <i>Volnei Tita</i>	Study of poly(ethylene-co-methacrylic acid) as healing agent in epoxy	Ana Paula Cysne Barbosa (UFRN)
14:30 - 14:45		Tensile properties of novel composite ropes	Kimiyoshi Naito (National Institute for Materials Science, Japan)
14:45 - 15:00		Effects of silica microparticles in glass fibre/epoxy laminates	Juan Gomez (UFSJ)
15:00 - 15:15		Numerical and experimental analyses on the curing of a thick thermosetting polymer matrix	Vivianne Marie Bruère (UFPE)
15:15 - 15:30		Coffee Break	
15:30 - 15:50	Simulation in Composites 3 Chairperson: <i>Suresh Advani</i>	<i>Keynote:</i> Sequential approximate optimization of composite structures using radial basis functions	Evandro Parente (UFC)
15:50 - 16:05		Computational analyses for carbon-epoxy plates damaged by low-velocity impact	Gregorio Felipe Oliveira Ferreira (USP-SC)
16:05 - 16:20		Design optimization of a composite beam with a hollow square profile for the Brazilian academic challenge in Composites (SAMPE)	Andreza de Sousa Andrada (UF Itajubá)
16:20 - 16:35		Different methods of three-point bending analysis of polymer epoxy reinforced with fiberglass laminated faces	João Pedro Monteiro Cheloni (UFSJ)
16:35 - 16:50		Numerical Modelling of Helical Cables Using Beam Elements	Eduardo Antonio Wink de Menezes (UFRGS)
16:50 - 17:05		Analysis and optimization of a hybrid mono leaf spring	Marcella Cristina Neves Alvarenga (UFMG)
17:05 - 17:20		Simulation of flexural stresses on layered natural fibre/epoxy composite beams	Durai Prabhakaran Raghavalu Thirumalai (Bangor University, UK)

July 25 th , 2018 - Wednesday		AMEX Room - Morning	
TIME	SESSION	TITLE	SPEAKER
7:30 - 8:30		Registration	
8:30 - 9:10	Plenary AMEX room Chairperson: José Roberto d'Almeida	The development of high performance natural fibre composites for a more sustainable future	Kim Pickering (University of Waikato, New Zeland)
9:20 - 9:35		Evaluation of the thermal performance of gypsum composites reinforced with sisal fibers	Carolina Carvalho Pinto (UFBA)
9:35 - 9:50	Lignocellulosic and Green Composites 4	Effect of chemical treatments on thermal properties of imperata brasiliensis grass to reinforce composites with polymeric matrix	Thiago de Souza Dias (UNESP)
9:50 - 10:05	Chairperson: Maria Odila	New method to extract a natural and versatile "silicic-cellulosic composite" from rice husk waste and your application for absorptive processes	Marcelo Pereira da Rosa (UFRGS)
10:05 - 10:20		On the measurement of cross-sectional area of natural fibers	Otavio Gomes (CETEM)
10:20 - 10:35		Coffee Break	
10:35 - 10:50		Mechanical analisis of plasma treated coconut fiber mats reinforced unsaturated polyester biocomposite	Daniel Magalhães de Oliveira (UNESP)
10:50 - 11:05		Mechanical Analysis of Jute + Ramie Hybrid Composite in Polyester Matrix	Jorge de Souza e Silva Neto (CEFET-RJ)
11:05 - 11:20	Lignocellulosic and Green Composites 5	Photochemical approach as a strategy to recycle rice husk lignin and post-consumer polystyrene	Maria Carolina Salum Bulhosa (UFRGS)
11:20 - 11:35	Chairperson: Kim Pickering	Evaluation of mechanical properties of low cost fmls fabricated with coir fibre-reinforced composites	Julio Cesar dos Santos (UFSJ)
11:35- 11:50		Composites made of boiler ash and mauve fibers	Deibson Silva da Costa (UFPA)
11:50 - 12:05		Hybrid composites based on silica, glass and short sisal fibres	Leandro J. Silva (UFSJ)
12:25 - 13:00	Closing Ceremony AMEX Room	Closing remarks by Conference Chairman	Flávio A. Silva
13:00 - 14:00		Lunch	

July 25 th , 2018 - Wednesday		Room 1 - Morning	
TIME	SESSION	TITLE	SPEAKER
7:30 - 8:30		Registration	
8:30 - 9:10	Plenary AMEX room Chairperson: José Roberto d'Almeida	The development of high performance natural fibre composites for a more sustainable future	Kim Pickering (University of Waikato, New Zeland)
9:20 - 9:35	Cement Based Composites 6 Chairperson: Gustavo Tonoli	Cyclic flexural behavior of polypropylene and sisal fiber reinforced concrete	Raylane e Souza Castoldi (PUC-Rio)
9:35 - 9:50		Development of cement based-matrix composites reinforced with treated jute fabrics using the polymer styrene-butadiene and its monomers	Lucca de Campos Fontolan (UFPA)
9:50 - 10:05		Utilization of castor oil to produce an air incorporator additive for concretes	Filipe da Silva Duarte (IFAL)
10:05 - 10:20		Production of cementitious laminates reinforced with fibers from amazonia	Fernanda Ferreira Oikawa (UFAM)
10:20 - 10:35		Coffee Break	
10:35 - 10:50	Cement Based Composites 7 Chairperson: Gustavo Tonoli	Effect of rice husk ash incorporation in steel fiber reinforced concretes	Conrado S. Rodrigues (CEFET-MG)
10:50 - 11:05		Assessment of particle reinforced composites based on full factorial and simplex-lattice designs	Bernardo Franco Rufini (UFSJ)
11:05 - 11:20		Incorporation of reused sugarcane fibres applied in the treatment of effluents contaminated with engine oil as reinforcement of cementitious composites	Viviane Vasques da Silva Guillarduci (UFSJ)
11:20 - 11:35		Investigations on hybrid cementitious composites for aerostatic porous bearings	Zélia Maria Velloso Missagia (UFSJ)
11:35 - 11:50		Cold-pressed hybrid composites reinforced with coir fibres and cement particles: a statistical approach	Gabriela Luiza Cota Coura (UFSJ)
11:50 - 12:05		Correlations on pulse velocity and physic-mechanical properties of cement mortar containing quartz and recycled-pp aggregates	Kívia Mota Nascimento (UFSJ)
12:05 - 12:20		Computation of Effective Elastic Properties of Reinforced Cementitious Composite Using Micro-Tomography and Finite Elements	Rafael da Silva Vianna (UFF)
12:25 - 13:00	Closing Ceremony AMEX Room	Closing remarks by Conference Chairman	Flávio A. Silva
13:00 - 14:00		Lunch	

July 25 th , 2018 - Wednesday		Room 2 - Morning	
TIME	SESSION	TITLE	SPEAKER
7:30 - 8:30		Registration	
8:30 - 9:10	Plenary AMEX room Chairperson: José Roberto d'Almeida	The development of high performance natural fibre composites for a more sustainable future	Kim Pickering (University of Waikato, New Zeland)
10:20 - 10:35		Coffee Break	
10:35 - 10:50	Recycling and Sustainability	Recycled glass fibre/polyester resin system - interface characterisation	Durai Prabhakaran Raghavalu Thirumalai (Bangor University, UK)
10:50 - 11:05		A novel recycling route for polyethylene bottle caps as circular honeycomb core	Murilo Monteiro de Jesus (UFSJ)
11:05 - 11:20	Chairperson: Maria Odila	Thermal Properties Study of Recycled Espresso Coffee Capsules for Biocomposites Manufacturing	Anne Shayene Campos de Bomfim (UNESP)
11:20 - 11:35		Epoxy polymers reinforced with carbon powder wastes	Thais da Costa Dias (UFSJ)
11:35 - 11:50		Bio-renewable carbon material precursors from biomass waste for blend with polyacrylonitrile	Katia S. D. Nunes (ITA)
11:50 - 12:05		Kraft lignin from paper mill LIGNOBOOST® process : A promise to low cost green carbon fiber	Katia S. D. Nunes (ITA)
12:25 - 13:00	Closing Ceremony AMEX Room	Closing remarks by Conference Chairman	Flávio A. Silva
13:00 - 14:00		Lunch	

July 25 th , 2018 - Wednesday		Room 3 - Morning	
TIME	SESSION	TITLE	SPEAKER
7:30 - 8:30		Registration	
8:30 - 9:10	Plenary AMEX room Chairperson: José Roberto d'Almeida	The development of high performance natural fibre composites for a more sustainable future	Kim Pickering (University of Waikato, New Zeland)
9:20 - 9:35	Nanocomposites 2	Evaluation of Thermal Behavior in Poly(3-Hydroxybutyrate)/Hydroxyapatite Nanocomposites for Biomaterial Applications	Maxwell de Paula Cavalcante (IMA)
9:35 - 9:50		Functionalization of graphite oxide with GLYMO and its use as reinforcement in epoxy matrix nanocomposites	Sergio Pezzin (UDESC)
9:50 - 10:05		The influence of matrix impregnation on effective elastic properties of a unidirectional carbon nanotube bundled composite: a topology optimization approach	Bruno Guilherme Christoff (UFSCAR)
10:05 - 10:20	Chairperson: Veronica Calado	Synthesis and Mechanical Properties of Reduced Graphene Oxide - Al Matrix Nanocomposites	Daniel Andrada Maria (UNIFEI)
10:20 - 10:35		Coffee Break	
10:35 - 10:55	Industrial Applications	<i>Keynote:</i> Interlaminar shear fatigue in composites materials used in wind turbine and aircraft industries	Hector G. Kotik (UFRJ)
10:55 - 11:10		Structural behavior of filament winding tanks	Jorge Nasseh (Barracuda)
11:10 - 11:30		<i>Keynote:</i> Non-metallic materials in the Oil and Gas Industry: Overall outlook and future trends	Antonio Henrique (CENPES)
11:30 - 11:45	Chairperson: Daniel Cardoso	Effect of the filament winding pattern modeling on the axial compression of cylindrical shells	Cristiano Baierle de Azevedo (UFRGS)
11:45 - 12:00		Development of kevlar composites for ballistic application	Viviane Muniz Fonseca (UFRN)
12:25 - 13:00	Closing Ceremony AMEX Room	Closing remarks by Conference Chairman	Flávio A. Silva
12:25 - 13:25		Lunch	

4TH BRAZILIAN CONFERENCE ON COMPOSITE MATERIALS
PUC-RIO - RIO DE JANEIRO, BRAZIL - JULY 22ND - 25TH, 2018

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July 22nd - Sunday

Time	Activity
12:00 – 16:00	Registration
13:00 – 16:00	Minicourses
16:20 – 17:00	Opening Ceremony
17:00 – 17:40	Plenary Session 01 Issues in the stability behaviour of pultruded GFRP members <i>Chairperson: Daniel Cardoso</i>
18:00 – 20:00	Cocktail

July 23th - Monday

Time	Activity
7:00 – 8:30	Registration
8:30 – 9:10	Plenary Session 02 Multi-scale Modeling and Simulation of Composite Manufacturing Processes <i>Chairperson: Veronica Calado</i>
9:20 – 10:20	Durability, Ageing and Aggressive Environment Physical and Mechanical Properties 1 Repair and Joining Techniques 1
10:20 – 10:35	Coffee-break
10:35 – 12:25	FRP for Internal and External Reinforcement of Concrete Structures Composites for the Aeronautical Industry Cement Based Composites 1
12:20 – 13:25	Lunch
13:25 – 14:05	Plenary Session 03 Advanced Green Composites: New Directions <i>Chairperson: Kim Pickering</i>
14:15 – 15:00	Simulation in Composites 1 Cement Based Composites 2 Lignocellulosic and Green Composites 1
16:00 – 16:30	Coffee break
15:30 – 17:15	Lignocellulosic and Green Composites 2 Glare and Fiber-Metal Laminates Analytical Methods and Multi-Scale Modelling FRP for Civil Engineering Applications

July 24th - Tuesday

Time	Activity
7:00 – 8:30	Registration
8:30 – 9:10	Plenary Session 04 Double-double Laminates and their design and manufacturing innovations <i>Chairpersons: JosØ Daniel & Carlos Cimini</i>
9:20 – 10:20	Experimental Techniques 1 Simulation in Composites 2 Cement Based Materials
10:30 – 11:30	Coffee-break
10:35 – 12:30	Cement Based Composites 3 Repair and Joining Techniques 2 Damage and Fracture Experimental Techniques 2
12:30 – 14:00	Lunch
13:25 – 14:05	Plenary Session 05 A review on modelling of laminated plates and shells <i>Chairpersons: Volnei Tita & Sílvia de Barros</i>
14:15 – 15:15	Physical and Mechanical Properties 2 Cement Based Composites 4 Processing and Manufacturing Physical and mechanical properties 3
15:15 – 15:30	Coffee break
15:30 – 17:10	Cement Based Composites 5 Geopolymer Composites Nanocomposites 1 Simulation in Composites 3
19:30	Conference Dinner

July 25th - Wednesday

Time	Activity
7:00 – 8:30	Registration
8:30 – 9:10	Plenary Session 06 The development of high performance natural fibre composites for a more sustainable future <i>Chairperson: JosØ Roberto d'Almeida</i>
9:20 – 10:20	Lignocellulosic and Green Composites 4 Cement Based Composites 6 Nanocomposites 2
10:20 – 10:35	Coffee-break
10:35 – 12:05	Lignocellulosic and Green Composites 5 Cement Based Composites 7 Recycling and Sustainability Industrial Applications
12:00 – 12:30	Closing Ceremony
12:30 – 14:00	Lunch

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