



THE UNIVERSITY OF BRITISH COLUMBIA
Okanagan Campus - School of Engineering

In conjunction with
**2nd Annual
Industry 4.0
School**

CANCOM 2019

Knowledge-in-Practice
&
Smart Manufacturing for
Today's
Composites Engineering
Challenges

**11th Canadian - International
Conference on Composites**

Kelowna, BC | **2019**
July 22-25

cancom2019.ca



A warm welcome to Kelowna for CANCOM 2019

Message from the chairs

Dear Colleagues,

On behalf of the Canadian Association for Composite Structures and Materials (CAC SMA), it gives us great pleasure to welcome you to the 11th Canadian - International Conference on Composites (CANCOM 2019).

CANCOM2019 will focus on research, technology and product development in emerging and growing industrial sectors, in addition to the traditional fields of applications of composites - aerospace and transportation. This technical forum facilitates the exchange of information and ideas about composite materials, design and processing, and structural performance by bringing together Canadian and international participants from industry, government and academia. This year, CANCOM will run concurrently with the Industry 4.0 Summer School. Attendees will have the option to attend any of the Composites or Industry 4.0 sessions, pre-conference tutorials, and meet multiple industrial participants from both areas of research, which are now fast integrating worldwide to form the Factories of Future (Composites 4.0). We are also very pleased to announce that we have organized a special session "Women in Composites" in CANCOM 2019 to serve as a platform to discuss gender equity in the engineering profession with a particular focus on the area of composites.

This year's conference is proud to be the host for multiple international attendees along with prominent keynote speakers from leading technological sectors in advanced manufacturing.

Looking forward to a great event and welcome again to the beautiful Okanagan!

On behalf of the organizing committee,

Abbas Milani (CANCOM2019 and Industry 4.0 School Co-Chair)

Reza Vaziri (CANCOM2019 Co-Chair)

Homayoun Najjaran (Industry 4.0 School Chair)



11th Canadian - International Conference on Composites
University of British Columbia, Okanagan Campus
Kelowna, BC, July 2019

Committees

Technical committee

Anoush Poursartip (University of British Columbia - Vancouver)

Goran Fernlund (University of British Columbia - Vancouver)

Kevin Golovin (University of British Columbia - Okanagan)

Gene Manchur (Composites Innovation Centre)

Andrew Johnston (National Research Council)

Frank Ko (University of British Columbia - Vancouver)

Cagri Ayranci (University of Alberta)

Mehdi Hojjati (Concordia University)

Suong V. Hoa (Concordia University)

Afzal Suleman (University of Victoria)

Pascal Hubert (McGill University)

John Montesano (University of Waterloo)

Yadienka Martinez Rubi (National Research Council)

Ali Yousefpour (National Research Council)

Farid Taheri (Dalhousie University)

Gabriel LaPlante (Université de Moncton)

Pierre Mertiny (University of Alberta)

Larry Lessard (McGill University)

Local organizing committee

Ahmad Rteil

Kevin Golovin

Suzana Topic

Bryn Crawford

Jolene Campbell

Mahdi Takaffoli

Armin Rashidi



Sponsors

We sincerely appreciate the support from all Exhibitors and Sponsors of the CANCOM 2019.



Materials & Manufacturing Research Institute

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CONVERGENT
MANUFACTURING TECHNOLOGIES



Composites Knowledge Network



TECHNOLOGY
BREWING CORPORATION



COMPOSITE
AUTOMATION

11th Canadian - International Conference on Composites
University of British Columbia, Okanagan Campus
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General Information

Registration

The conference registration will take place in the lobby of **EME Building, 1137 Alumni Ave, V1V 1V7, Kelowna, BC**. Please bring a Photo ID with you (driver's license, passport, etc).

Wi-Fi access

Free Wi-Fi is provided during the conference week at the EME building. Please log in to "UBC Visitor". No password is required.

Conference app

Please download the "Whova - Event & Conference App" from GooglePlay or Apple App store and search for "11th Canadian- international Conference on Composites 2019". You may then register and get access to the conference materials. There will be announcements made through the app via push notifications. Please keep checking your phones!

Lunches and coffee breaks

Lunch, Coffee, tea, water and light refreshments are provided during morning and afternoon breaks in the foyer of the EME building.

Welcoming reception

The reception will be held in **UNC 200-University Centre Building**. There will be two presentations as follows:

- Speech by SAMPE North America President, Gregg B. Balko, FASAE, CAE
- Introduction to Composites Knowledge Network, Anoush Poursartip, PhD, PEng, FCAE

Banquet

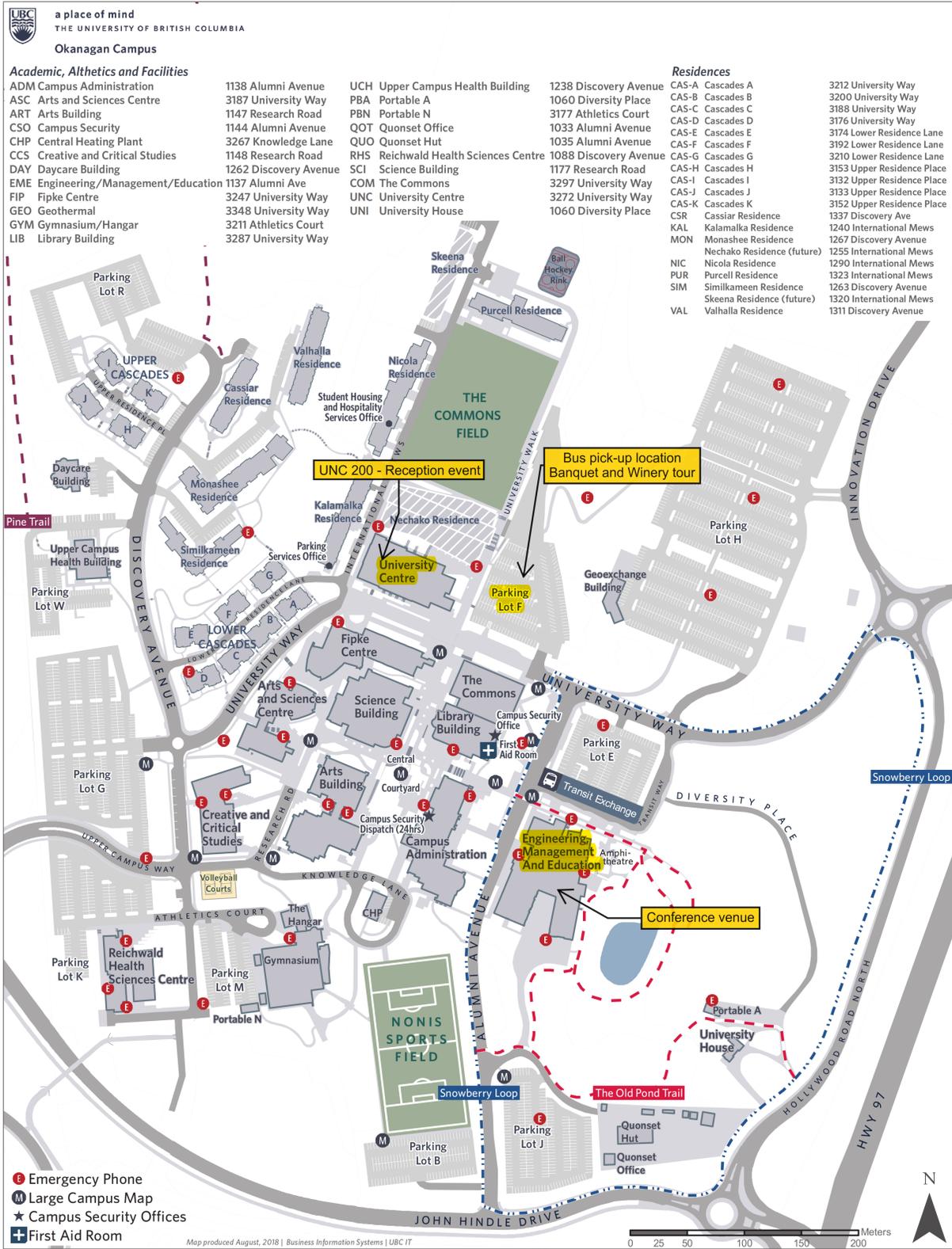
The banquet will be held at Summerhill Winery, with live music. One drink voucher will be provided for each guest upon registration. Wine, spirits, and soft drinks will be provided. A cash bar will be open during the event if the guests wish to purchase additional drinks. Bus transportation is provided between Campus and the Winery. Thee best student paper award ceremony will also be held in the Banquet along with a speech by CACSMA president, Dr. Pierre Mertiny.

- **Pick up location: Parking lot F (See the campus map in Page 6) - Please arrive 10 minutes earlier.**
- **First bus departure (Only for those registered for the Winery tour): 16:15**
- **Second (General) bus departure: 17:30.**

Women in composites

CANCOM 2019 will host a special session this year on Women in Composites, on Thursday, **July 25th**. This session is established to serve as a platform to discuss gender equity in the engineering profession with a particular focus on the area of composites. The event will include panel discussions featuring female professionals from academia and industry, sharing their personal stories and career advice. This will be followed by a discussion session for exchange of views, issues and information relevant to woman's professional development. This special event provides great opportunity for everyone involved in science and engineering to network, access motivational leaders and also further their training in non-technical skills.

Campus map



11th Canadian - International Conference on Composites
 University of British Columbia, Okanagan Campus
 Kelowna, BC, July 2019

Programme at a glance

Pre-Conference Workshops

Start	End	Composites Workshop		Industry 4.0 Workshop	
		EME 0050		EME 1153	
8:00	9:00	Registration and Breakfast @ EME Foyer			
9:00	10:30	Module 1: Introduction to Manufacturing Processes for Composites.		Module 1: Introduction to Smart Manufacturing.	
		Instructor: Casey Keulen (Composites Research Network - CRN)		Instructor: Marian Koerber (German Aerospace Centre - DLR)	
10:30	10:45	Coffee Break @ EME Foyer			
10:45	12:15	Module 2: Introduction to Composites Process Simulation.		Module 2: Mixed Reality in Manufacturing, Training, and Service.	
		Instructor: Navid Zobeiry (Composites Research Network - CRN)		Instructors: Ethan Arnowitz & Maryam Dastpak (Microsoft)	
12:15	13:15	Lunch Break @ EME Foyer			
13:15	14:45	Module 3: Introduction to Thermal Management of Composites during Processing.		Module 3: Introduction to Machine Learning in Engineering Applications.	
		Instructor: Christophe Mobuchon (Composites Research Network - CRN)		Instructors: Navid Zobeiry & Bryn Crawford (Composites Research Network - CRN)	
14:45	15:00	Coffee Break @ EME Foyer			
15:00	16:00	EME 0050			
		Module 4 (Common): Review of the Manufacturing Processes for Boeing 787 and 777X. Instructor: Navid Zobeiry (Composites Research Network - CRN)			

Monday - July 22

Conference Programme

Start	End	EME 0050			
7:30	8:30	Registration and Breakfast @ EME Foyer			
8:30	9:30	Opening plenary talk Prof. Frank Henning: "Modular and Flexible Manufacturing for Tailor-made Composite Hybrid Parts"			
9:30	10:30	EME 0050		EME 1153	
		Processing	Chair: Dr. Casey Keulen	Non-destructive testing/Structural health monitoring	Chair: Mr. Flynn Spears
10:30	10:50	Coffee Break @ EME Foyer + Trade show			
10:50	11:50	Processing	Chair: Dr. Pascal Hubert	Non-destructive testing/Structural health monitoring	Chair: Dr. Toby Bond
12:00	13:00	Lunch Break @ EME Foyer + Trade show			
13:00	14:30	Characterization	Chair: Dr. Mohammad Rafiee	Bio-Composites	Chair: Dr. Mahdi Takaffoli
14:30	14:45	Coffee Break @ EME Foyer + Trade show			
14:45	15:45	Characterization	Chair: Dr. Behnam Ashrafi	Natural Fibers	Chair: Dr. Inderdeep Singh
17:00	19:30	UNC 200			
		 Welcoming Reception Composites Knowledge Network - Anoush Poursartip, PhD, PEng, FCAE SAMPE North America President Speech: Gregg B. Balko, FASAE, CAE			

Tuesday - July 23

11th Canadian - International Conference on Composites
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Programme at a glance

Start	End	EME 0050			
7:30	8:30	Breakfast @ EME Foyer			
8:30	9:30	Plenary talk Prof. Kevin Potter: "Improving Composites Manufacture - better robots or supported humans?"			
9:30	11:00	The Dr. Suong Van Hoa Student Paper Award Competition Ranking voted by conference audience		Chair: Dr. Pierre Mertiny	
11:00	11:15	Coffee Break @ EME Foyer + Trade show			
11:15	12:15	EME 0050		EME 1153	
		I4.0: Simulation and sensors	Chair: Dr. Navid Zobeiry	Nano-Composites	Chair: Dr. Mohtada Sadrzadeh
12:15	13:15	Lunch Break @ EME Foyer + Trade show		CAC SMA General Meeting @ EME4218	
13:15	14:45	I4.0: Simulation and sensors	Chair: Dr. Zohreh Asaee	Modeling Techniques	Chair: Dr. Christophe Mobuchon
14:45	15:30	Coffee Break @ EME Foyer + Trade show			
16:15* 17:30**	21:30	 Gala Event at Summerhill Winery Welcoming speech by Dr. Pierre Mertiny - CACSMA President *First bus pick-up only for those registered for the winery tour. **Second bus pick-up (all attendees)			

Wednesday - July 24

Start	End	EME 0050			
7:30	8:30	Breakfast @ EME Foyer			
8:30	9:30	Plenary talk Prof. Anoush Poursartip: "A Composites Learning Factory"			
9:30	9:45	Coffee Break @ EME Foyer + Trade show			
9:45	11:15	Special session: Women in Composites		Chair: Ms. Suzana Topic	
11:30	12:30	EME 0050		EME 1153	
		Durability, Ageing, Environmental Effects	Chair: Dr. Locke Spencer	Fatigue, Damage, Failure Progression	Chair: Dr. Gabriel LaPlante
12:30	13:30	Lunch Break @ EME Foyer + Trade show			
13:30	14:30	Design & Manufacturing	Chair: Dr. Mohammad Nouroz Islam	Fatigue, Damage, Failure Progression	Chair: Dr. Mohammad Rafiee

Thursday - July 25

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Technical programme

Start	Tuesday, July 23 rd		Start
EME 0050			
7	:30	Breakfast and Registration @ EME Foyer - 7:30 - 8:30	7 :30
8	:30	Opening plenary talk Prof. Frank Henning: "Modular and Flexible Manufacturing for Tailor-made Composite Hybrid Parts"	8 :30
9	:30	Oral Sessions	9 :30
		EME 0050	EME 1153
		Processing	Non-destructive testing/Structural health monitoring
		EFFECT OF CURE PRESSURE ON VOID CONTENT AND INTERLAMINAR SHEAR STRENGTH OF INTERLAYER TOUGHENED COMPOSITE LAMINATES Chen, Cheng, Mohseni, Mohammad, Poursartip, Anoush, and Fernlund, Göran University of British Columbia	NON-DESTRUCTIVE EVALUATION AND PERFORMANCE METRICS OF LIGHTNING STRIKE PROTECTION SYSTEM M. Genest, B.Ashrafi, and C. Mandache National Research Council Canada
	:50	CHARACTERIZATION OF PREPREG INITIAL MORPHOLOGY Duffner, C, Courteau-Godmaire, H, Zobeiry, N and Poursartip, A University of British Columbia	SYNCHROTRON-BASED 3D IMAGING OF CURING IN CARBON FIBRE PREPREG Bond, T, Farhang, L, Olson, J Kay, J, Fernlund, G, and Zobeiry, N Canadian Light Source
10	:10	LAYUP EFFECTS ON CORE MOVEMENT IN SANDWICH PANELS D. Pawson, G. Fernlund University of British Columbia	NONDESTRUCTIVE TESTING INTEGRATED WITH DATA-DRIVEN METAMODELING TO PREDICT MICROSTRUCTURE-PROPERTY RELATIONS IN WOVEN FABRICS T. Olfatbakhsh, A.S. Milani University of British Columbia
	:30	Coffee Break & trade show @ EME Foyer - 10:30 - 10:50	
	:50	Processing	Non-destructive testing/Structural health monitoring
		A FRAMEWORK FOR MULTI-SCALE THREE-PHASE INTEGRATED FLOW-STRESS PROCESS MODEL Shayan Fahimi, Alireza Forghani, Reza Vaziri, and Anoush Poursartip University of British Columbia	VISUALIZING STRUCTURAL HEALTH MONITORING OF CF COMPOSITES THROUGH ELECTRO-LUMINESCENCE J. Qiu, M.K. Idris, G. Grau, G.W. Melenka York University, Toronto
11	:10	NUMERICAL STUDY OF THE EFFECT OF PROCESSING PARAMETERS ON POROSITY Mohammad Mohseni, Göran Fernlund University of British Columbia	RECENT DEVELOPMENTS IN SHEAROGRAPHY NDE OF COMPOSITE MATERIALS F. Spears Laser Technology Inc.
	:30	MATERIAL CHARACTERIZATION OF GRAPHENE ENHANCED COMPOSITES FOR RESIN TRANSFER MOLDING J. Barroeta Robles, L. Hong, M. Palardy-Sim, M. A. Octeau, A. Youssefpour, N. Moghimian, B. Ashrafi National Research Council Canada	IN-PROCESS INSPECTION OF 3D PRINTED PARTS MANUFACTURED BY FUSED FILAMENT FABRICATION (Presentation only) S. Khan, K. Fayazbakhsh, Z. Fawaz Ryerson University
12	:00	Lunch Break @ EME Foyer + Trade show - 12:00 - 13:00	
13	:00	Characterization	Bio-Composites
		FABRICATION AND CHARACTERIZATION OF A POLYMER MATRIX COMPOSITE REINFORCED WITH GRAPHENE OXIDE FOR ELECTRONIC PACKAGING W. Navas, D. Cree, and L. Wilson University of Saskatchewan	EXPERIMENTAL/NUMERICAL MODELING OF MICROWAVE-PYROLYSIS-BIOCHAR REINFORCED GFRP BIOCOMPOSITES Chase A. Wallace, Gobinda C. Saha, Muhammad T. Afzal University of New Brunswick
	:20	MECHANICAL AND TRIBOLOGICAL PROPERTIES OF COMPOSITE CRALTISIN AND TIALN MULTI-LAYER COATINGS AND APPLICATION TO METAL FORMING PROCESS Tung-Sheng Yang, Sang-Yi Chang, and Yin-Yu Chang National Formosa University, Huwei, Taiwan	CHARACTERIZATION OF BIO-EPOXY WASTE EGGSHELL COMPOSITE S. Owuamanam and D. Cree University of Saskatchewan
	:40	CHARACTERIZATION OF THE SHEAR RESPONSE OF UNIDIRECTIONAL NON-CRIMP CARBON FIBER FABRICS A. Trejo, M. Ghazimoradi, C. Butcher and J. Montesano University of Waterloo	INVESTIGATING PLASTINATION FEASIBILITY OF NATURAL FIBRES FOR IMPROVED DURABILITY D. K. Dhir, B. Crawford, A. Rashidi, G. Bogyo, R. Ryde and A. S. Milani University of British Columbia
14	:00	INTERLAMINAR SHEAR STRENGTH OF THE CARBON/EPOXY COMPOSITES CONTAINING GAPS INDUCED BY AUTOMATED FIBER PLACEMENT PROCESS Ghayour, M, Ganesan, R., and Hojjati, M Concordia University	DEVELOPMENT PROCESS TO PURIFY WASTE EGGSHELLS TO MANUFACTURE EPOXY COMPOSITES G. Golakiya, D. Cree University of Saskatchewan
14	:30	Coffee Break & trade show @ EME Foyer - 14:30 - 14:45	
	:45	Characterization	Natural Fibers
		STRESS ANALYSIS OF THICK WALLED COMPOSITE TUBES UNDER BENDING MOMENT S. Khadem Moshir, S.V. Hoa, and F. Shadmehri Concordia University	EVALUATION OF INJECTION MOLDED NATURAL FIBER-POLYPROPYLENES FOR POTENTIAL IN AUTOMOTIVE APPLICATIONS J Thomason, J Rudeiros-Fernández University of Strathclyde
15	:05	TENSILE, COMPRESSIVE, AND SHEAR PROPERTIES OF UHMWPE/CARBON HYBRID FIBER REINFORCED POLYMER COMPOSITES WITH A NOVEL LIQUID THERMOPLASTIC RESIN, ELIUM® Kazemi, M.E., Shanmugam, Logesh, and Yang, Jinglei The Hong Kong University of Science and Technology	NATURAL FIBER REINFORCED COMPOSITES IN FURNITURE INDUSTRY: A CASE STUDY M.K.Lila, U.K.Komal, S. Chaitanya, I. Singh Indian Institute of Technology Roorkee
	:25	FIMATEST - A NEW TESTING SYSTEM TO DETERMINE THE FIBRE-MATRIX ADHESION STRENGTH BY MEANS OF PULL-OUT TESTS Edith Mäder, Christina Scheffler, Andrea Miene, Ulrich Mörschel, Claudia Poitzsch, Stefan Flieschler Textechno Herbert Stein GmbH & Co	THERMAL POST PROCESSING OF MUNIA FIBER REINFORCED POLYMER COMPOSITES M K Lila, U K Komal, and I Singh Indian Institute of Technology Roorkee
UNC 200			
17	:00	Welcoming Reception Composites Knowledge Network – Anoush Poursartip, PhD, PEng, FCAE SAMPE North America President Speech: Gregg B. Balko, FASAE, CAE	17 :00

Technical programme

Start		Wednesday, July 24 th		Start		
EME 0050						
7	:30	Breakfast @ EME Foyer - 7:30 - 8:30		7	:30	
8	:30	Plenary talk Prof. Kevin Potter: "Improving Composites Manufacture - better robots or supported humans?"		8	:30	
9	:30	Oral Sessions		9	:30	
		The Dr. Suong Van Hoa Student Paper Award Competition - Ranking voted by conference audience				
		<i>INVESTIGATION OF THE EFFECT OF EXTREME COLD TEMPERATURES ON THE IMPACT BEHAVIOR OF CFRP COMPOSITE SANDWICH PANELS: NUMERICAL SIMULATION DEVELOPMENT</i> <i>M. Jean-St-Laurent, M.L. Dano, and M.J. Potvin</i> <i>Laval University</i>				
	:50	<i>A MIXED LUBRICATION MODEL FOR INTER-PLY FRICTION BEHAVIOR OF THERMOSET PREPREGS</i> <i>A. Rashidi, B. Crawford, A.S. Milani</i> <i>University of British Columbia</i>			:50	
10	:10	<i>MATERIAL CHARACTERIZATION OF SHAPE MEMORY ALLOYS FOR MORPHING HYBRID COMPOSITES</i> <i>S. Iyer and P. Hubert</i> <i>McGill University</i>		10	:10	
	:30	<i>VIBRATION CHARACTERISTICS OF MULTI-WALL CARBON NANOTUBES (MWCNT) REINFORCED 3D-FIBER METAL LAMINATES (3D-FML)</i> <i>B. Soltannia, P. Mertiny, and F. Taheri</i> <i>University of Alberta</i>			:30	
	:50	<i>UNDERSTANDING THE NATURAL AGING OF GFRP COMPOSITES: A LONGITUDINAL STUDY</i> <i>S. Nezafatkah, A. Rashidi, B. Crawford, F. Sassani, and A.S. Milani</i> <i>University of British Columbia</i>			:50	
11	:00	Coffee Break & trade show @ EME Foyer - 11:00 - 11:15		11	:00	
11	:15	EME 0050		EME 1153		
		I4.0: Simulation, Sensors and Control Systems		Nano-composites		
		<i>A DISCRETE-CONTINUOUS FINITE ELEMENT MODEL TO PREDICT DAMAGE PROGRESSION IN NON-CRIMP FABRIC CFRP COMPOSITES UNDER TENSILE LOADING</i> <i>Abouali, S., Reiner J., and Vaziri R</i> <i>The University of British Columbia</i>		<i>EFFECT OF FUNCTIONALIZATION AND ALIGNMENT OF GRAPHENE NANOPATELETS ON THE THERMAL CONDUCTIVITY OF POLYLACTIDE BASED NANOCOMPOSITES</i> <i>Qi Zhang and Pierre Mertiny</i> <i>University of Alberta</i>		
	:35	<i>NUMERICAL STUDY ON DYNAMIC LOADING RESPONSE OF MID- AND HIGH-STRENGTH ALUMINUM-CFRP HYBRID RAILS</i> <i>Zohreh Asaee, John Montesano, and Michael Worswick</i> <i>University of Waterloo</i>		<i>NANOREINFORCED ADHESIVES AND COMPOSITE LAMINATES INCORPORATING BN NANOTUBES</i> <i>Meysam Rahmat, Behnam Ashrafi, Yadienka Martinez-Rubi, Jingwen Guan, Benoit Simard, and Michael B. Jakubinek</i> <i>National Research Council Canada</i>		
	:55	<i>EXPERIMENTAL AND NUMERICAL STUDY ON THE STRUCTURAL STIFFNESS OF COMPOSITE ROTOR BLADE</i> <i>Hyeon-Kyu Jeon, Min-Hyeok Jeon, Min-Song Kang, In-Gul Kim, Jae-Sang Park, and Jin-Young Seok</i> <i>Chungnam National University</i>		<i>PRODUCTION AND CHARACTERIZATION OF CNC REINFORCED POLYAMIDE-6 NANO-COMPOSITE FILMS</i> <i>E.C. Demir, A. Benkaddour, N. Jankovic, M.T. McDermott, C.I. Kim, C. Ayranci</i> <i>University of Alberta</i>		
12	:15	Lunch Break 12:15-13:15		CACSMA General Meeting @ EME 4218 (4th floor, Tower 2, EME Building)		
13	:15	I4.0: Simulation, Sensors and Control Systems		Modeling Techniques		
		<i>MULTI-SCALE FINITE ELEMENTS ANALYSIS OF BRAIDS AND BUNDLES OF FILAMENTS USING EMBEDDED ELEMENTS</i> <i>B. Burgarella, L. Laberge Lebel</i> <i>Polytechnique Montréal</i>		<i>EIGENFREQUENCY OPTIMIZATION OF A WIND TURBINE BLADE BASED ON MATERIAL AND FIBER ORIENTATION</i> <i>A. Sohouli, M. Yildiz and A. Suleman</i> <i>University of Victoria</i>		
	:35	<i>APPLICATION OF A FIBROUS SHELL ELEMENT MODEL TO BENDING OF PRE-GELLED UNIDIRECTIONAL COMPOSITE</i> <i>H. Courteau-Godmaire, J. Reiner, G. Fernlund and R. Vaziri</i> <i>The University of British Columbia</i>		<i>FRACTIONAL VISCOELASTIC BEHAVIOR OF PREPREG WOVEN FABRICS</i> <i>Sourki, R, Faal, R., Crawford, B, Vaziri, R. and Milani, A.S</i> <i>University of British Columbia</i>		
	:55	<i>CONVERSION OF A PLC-BASED GRIPPER SYSTEM INTO A MODULAR, CROSS-LINKED PRODUCTION UNIT WITH INNOVATIVE CONTROL SYSTEM</i> <i>Körber, M, Krebs, F.</i> <i>German Aerospace Center (DLR)</i>		<i>MODELING OF QUANTUM DOT EMBEDDED FRP SMART COMPOSITE STRUCTURE USING ASYMPTOTIC HOMOGENIZATION METHOD</i> <i>A. Alam, G.C. Saha, A.L. Kalamkarov</i> <i>University of New Brunswick</i>		
14	:15	<i>ON THE DEVELOPMENT OF SELF-SENSING TEXTILE PREFORMS USING FUSED DEPOSITION MODELLING: A PRELIMINARY INVESTIGATION OF PROCESS PARAMETERS</i> <i>C. Keegan, B. Khatir, M.A.R. Khandoker, K. Golovin, and A.S. Milani</i> <i>University of British Columbia</i>		<i>TIME-VARYING RELIABILITY PREDICTION OF COMPLEX STRUCTURES USING PDEM WITH EXTREME LEARNING MACHINE</i> <i>Sajad Saraygord Afshari and Xihui Liang</i> <i>University of Manitoba</i>		
	:35	Coffee Break & trade show @ EME Foyer - 14:35 -15:30				
17	:30	Gala Event at Summerhill Winery Welcoming speech by Pierre Mertiny - CACSMA President				



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Technical programme

Start	Thursday, July 25 th		Start
EME 0050			
7	:30	Breakfast @ EME Foyer - 7:30 - 8:30	7 :30
8	:30	Plenary talk Prof. Anoush Poursartip: "A Composites Learning Factory"	8 :30
9	:30	Coffee Break & trade show @ EME Foyer - 9:30 - 9:45	9 :30
	:45	Special session: Women in Composites	:45
Oral Sessions			
EME 0050		EME 1153	
11	:30	Durability, Ageing, Environmental Effects	11 :30
		<i>COATING OF GLASS FIBER REINFORCED POLYMERS FOR DE-ICING APPLICATION</i> Rahimi, A., Dolatabadi, A., Moreau, C., and Hojjati, M Concordia University	
		<i>STRUCTURAL RESPONSE AND DAMAGE CHARACTERISATION OF NON-CRIMP FABRIC CFRP PANELS UNDER IMPACT LOADING</i> Nesbitt, S., Waimer, M., Toso-Pentecôte, N., Vaziri, R., and Poursartip, A. University of British Columbia	
	:50	<i>EVALUATION OF COMPOSITE MATERIALS AT CRYOGENIC TEMPERATURE</i> Locke D. Spencer, Adam Christiansen, Ian T. Veenendaal, Sudhakar Gunuganti, David A. Naylor, Brad G. Gom, Geoffrey R. H. Sitwell, Navid Zobeiry, and Anoush Poursartip University of Lethbridge	:50
		<i>ENERGY-BASED FATIGUE LIFE PREDICTION OF COMPOSITE MATERIALS USING THERMOELASTIC STRESS ANALYSIS</i> Marques, Ricardo, Unel, Mustafa, Yildiz, Mehmet and Suleman, Afzal University of Victoria	
12	:10	<i>DESIGN OF A CARBON COMPOSITE RADIO TELESCOPE FOR THE NEXT GENERATION VERY LARGE ARRAY</i> Lacy, G, Islam, M, Chalmers, D National Research Council	12 :10
		<i>EFFECT OF THERMAL FATIGUE ON THE PERFORMANCE OF COMPOSITES HONEYCOMB SANDWICH</i> S. Hegde and M. Hojjati Concordia University	
	:30	Lunch Break 12:30-13:30	
13	:30	Design & Manufacturing	13 :30
		<i>EXPERIMENTAL INVESTIGATION OF INNOVATIVE SELF-CENTERING POLYURETHANE PISTON BASED BRACING</i> N. Shams, A. Issa, and M. Shahria Alam University of British Columbia	
		Fatigue, Damage, Failure Progression	
		<i>THE EFFECT OF PLY CONSTRAINING ON TRANSVERSE PLY CRACK FORMATION IN LAMINATED COMPOSITES</i> F. Sharifpour and J. Montesano University of Waterloo	
	:50	<i>COMPOSITES APPLICATION IN RE-DESIGN OF A NOVEL TANDOOR OVEN</i> Ramezankhani, M., Crawford, B., Kazemi, S., and Milani, A.S. University of British Columbia	:50
		<i>BENDING FATIGUE BEHAVIOUR AND DAMAGE CHARACTERIZATION OF BIO-COMPOSITE GEAR</i> P. Blais, and L. Toubal Université du Québec à Trois-Rivières	
14	:10	<i>PULTRUSION MANUFACTURING AND FLEXURAL BEHAVIOR ANALYSIS OF THERMOPLASTIC POLYMER-BASED FRP COMPOSITES FOR HIGH-STRENGTH APPLICATIONS</i> C. Mackin and G. Saha University of New Brunswick	14 :10
		<i>A Comparative Study of FEM Constitutive Material Model Laws For Simulation of Low Velocity Impact Damage to Composite Plates (Presentation only)</i> A. Rossi, K. Fayazbakhsh, Z. Fawaz Ryerson University	
	:30	<i>LOW COST MANUFACTURING OF NANOCOMPOSITE LAMINATES FOR LARGE SCALE PRODUCTIONS (Presentation only)</i> M. Rafiee, F. Nietzsche, M.R. Labrosse University of Ottawa	:30



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