

# SAMPE Europe



30<sup>th</sup>. International Jubilee Conference  
and Forum March 23<sup>rd</sup>. – 25<sup>th</sup>. 2009

**Hotel MERCURE Paris Porte de Versailles Expo  
F-92174 Vanves (Paris)**

## Composites – Innovative Materials for smarter Solutions



Cockpit A-340

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# SAMPE EUROPE 30<sup>th</sup> International Conference 2009

## All at a Glance

### Monday, 23<sup>rd</sup> March

08:00 – 17:30 10:00 – 18:00	Registration Sessions
10:00 – 11:15	Opening & Key Note Address L. Torre, SAMPE Europe President
	Keynote Presentation Peter Wu, Ph.D., VP/Chief Scientist The advancements in technologies are continuously changing the landscape of the aerospace industry
11:30 – 13:00	<b>Session 1</b>
<b>Session 1A</b> Automation	<b>Session 1B</b> Joining
Ed Carsson 30, 21, 8	A. Kwakemaak 79, 66, 19
13:15 – 14:15	Lunch
14:30 – 16:00	<b>Session 2</b>
<b>Session 2A</b> Textile I/Modelling	<b>Session 2B</b> Liquid Moulding
G. Ziegmann 12, 25, 60	V. Michaud 24, 44, 76
16:00 – 16:20	Coffee Break
16:30 – 18:15	<b>Session 3</b>
<b>Session 3A</b> Recycling	<b>Session 3B</b> Testing I
B. Griffith 61, 4, 28	W. Buchs 50, 23, 41
20:00 – 23:00	SEICO Gala Dinner

### Tuesday, 24<sup>th</sup> March

08:00 – 17:30 09:30 – 18:00	Registration Sessions
09:30 – 11:00	<b>Session 4</b>
<b>Session 4A</b> Modelling I	<b>Session 4B</b> CELPACT I
F. Sanchez 2, 11, 17	Alastair Johnson 69, 70, 71
11:00 – 11:20	Coffee Break
11:30 – 13:00	<b>Session 5</b>
<b>Session 5A</b> Green Composite I	<b>Session 5B</b> CELPACT 2
W. Cantwell 20, 35, 40	K. Drechsler 72, 73, 74
13:15 – 14:15	Lunch
14:30 – 16:00	<b>Session 6</b>
<b>Session 6A</b> Textile 2	<b>Session 6B</b> Processing 2
R. McCarthy 32, 52, 59	B. Beral 54, 55, 67
16:00 – 16:20	Coffee Break
16:30 – 18:00	<b>Session 7</b>
<b>Session 7A</b> Matrix System	<b>Session 7B</b> Properties I
M. Erath 51, 81, 1	S. Dellus 13, 18, 33
	<b>Session 7C</b> Process Control
	R. Rametta 84, 85, 86

### Wednesday, 25<sup>th</sup> March

08:30 – 17:00 09:30 – 18:00	Registration Sessions
09:00 – 11:00	<b>Session 8</b>
<b>Session 8A</b> Nano 2	<b>Session 8B</b> Green Composite 2
G. Ziegmann 65, 75, 77	I. Verpoest 53, 57, 76
11:00 – 11:20	Coffee Break
11:30 – 13:00	<b>Session 9</b>
<b>Session 9A</b> Panel Session/Tooling	<b>Session 9B</b> Processing 3
Cohen / Erath Panel Session "Tooling"	A. Schlarb 42, 3, 14
13:15 – 14:15	Lunch
14:30 – 16:00	<b>Session 10</b>
<b>Session 10A</b> Modelling 2	<b>Session 10B</b> Education
J. Kenny 37, 58, 49	A. Kwakemmak / Students 36, 90, 93
16:00 – 16:20	Coffee Break
16:30 – 18:00	<b>Session 11</b>
<b>Session 11A</b> Aero Testing	<b>Session 11B</b> Testing 2
S. Beckwith 87, 88, 92	J. Streidl 94, 95, 96

# 30<sup>th</sup> SAMPE Europe International Jubilee Conference SEICO 2008 Paris, Hotel MERCURE, Porte de Versailles, Vanves - & attendance at 44<sup>th</sup>. JEC Composites Show, at PARIS EXPO, Porte de Versailles



Dear Attendee, and dear SAMPE Member

Soyez le bienvenue à Paris pour participer à SEICO 09 Conférence de SAMPE Europe. Welcome in Paris to attend SAMPE Europe SEICO 09 Conference.

SAMPE Europe is proud to inform you of the 30<sup>th</sup> SEICO 2009 International Conference to be held from March 23<sup>rd</sup> to March 25<sup>th</sup> 2009 at the Hotel MERCURE Paris Porte de Versailles EXPO, which is within walking distance from the JEC Composites Show, 24-26 March 2009, at the Paris EXPO complex, located at "Porte de Versailles".

The timing of SEICO 2009 will allow attendees to have at least 1 day available to visit the JEC Composites Show, the world's most important exhibition and event on advanced composites technology and achievements.

SEICO 2009's Conference attendees will have free access to the JEC Composites Show. There will also be a free shuttle bus operating on 24 and 25 March 2009 from 08.30am to 18.00pm between the Hotel MERCURE Paris Porte de Versailles EXPO – and the main entrance gate of the Paris EXPO complex,.

SAMPE Europe invites you to exploit the **special pre-registration rates**, applicable to all registration requests received up to and including **February 21<sup>st</sup> 2008**.

As from February 22<sup>nd</sup>, 2009, published standard rates will be applied for all registrations.

The SEBO Office (e-mail: [sebo@sampe-europe.org](mailto:sebo@sampe-europe.org)) of SAMPE Europe are pleased to process your registration requests so please transmit your application form **by fax only to + 49 24 03 34 7 59 (Registration Form is included on a separat form)**.

For your hotel reservation request, please consult the enclosed reservation form of ATI Congrès Organisation, Paris, which proposes hotel facilities near the Paris EXPO complex, Porte de Versailles or in other parts of Paris, having special JEC – SAMPE Europe rates for 2009. For further information please contact:

ATI Congrès Paris: Phone + 33 | 47 27 15 15, Fax + 33 | 44 05 01 48  
E-Mail: [jec2009@ati-abotel.com](mailto:jec2009@ati-abotel.com) / Website: [www.ati-abotel.com](http://www.ati-abotel.com)

AIR FARES: Air France offers special fares to Paris for attendees of SEICO 09 and Visitors to JEC COMPOSITES Show 2009 under the booking code : JEC COMPOSITES SHOW PARIS 2009 – code évènement: **057551 AF**, applicable for flights from March 19<sup>th</sup>. to March 30<sup>th</sup>. 2009. Ticket reservation and sales under [www.airfranceklm-globalmeetings.com](http://www.airfranceklm-globalmeetings.com)

SAMPE Europe is looking forward to being your host at SEICO 2009.

Dr. Luigi Torre, President SAMPE Europe

**SAMPE Europe is honoured to welcome you to Paris to attend from  
March 23<sup>rd</sup>. – 25<sup>th</sup>., 2009**

## **SAMPE Europe 30<sup>th</sup>. Jubilee SEICO Conference and to visit the 44<sup>th</sup>. JEC Composite Show**

SEICO 08 Jubilee Conference will be held at the Hotel MERCURE, Paris Porte de Versailles EXPO, Vanves, located in walking distance (10-12 minutes) or by a ride of the free SEICO-JEC Shuttle Bus, to the PARIS EXPO Complex, Porte de Versailles. The JEC Composite Show 2009 will be organized from March 24<sup>th</sup>. – 26<sup>th</sup>. 2009, covering an exhibition area of > 46'000 m<sup>2</sup> and expecting some 27'000 visitors from all over the world. This preliminary programme got defined on available data and information as per Dec. 18th. 2008. As from early January 2009 the preliminary will be published on SAMPE Europe and SAMPE International's homepage under [www.sampe-europe.org](http://www.sampe-europe.org) respectively [www.sampe.org](http://www.sampe.org) with regular updates, if required.

**Monday, 23<sup>rd</sup> March**

**08.00 – 17.30  
11.00 – 18.15**

**Registration  
Sessions**

**10.00 – 11.15**

**Opening & Key Note Address**  
*L.Torre, SAMPE Europe President*

**Keynote Presentation**  
*Peter Wu, Ph.D., VP/Chief Scientist*  
*The advancements in technologies are continuously  
changing the landscape of the aerospace industry*

**11.30 – 13.00**

**Session I**

### **Session IA: Automation**

**Chairman Ed Carsson**

Title: "The impact of processing conditions on the final part quality in automated tape deposition technologies"

Author(s): Dirk H.-J. A. Lukaszewicz, Darren Winter, Paul M. Weaver, Kevin Potter  
Speaker: A. Luskazewicz

Title: "In Situ Thermoplastic ATP Needs Flat Tapes and Tows with Few Voids"

Author(s): Mark A. Lamontia and Mark B. Gruber, John Tierney, PhD and John W. Gillespie, Jr., PhD  
Speaker: M. Lamontia

Title: "Manufacturing of Variable-Stiffness Laminates using Advanced Fiber Placement"

Author(s): A.W. Blom, P.B. Stickler, Z. Gürdal  
Speaker:

### **Session IB: Joining**

**Chairman: A. Kwakernaak**

Title: "Optimal Design and Analysis of Adhesively Bonded Composite Propeller Shafts"

Author(s): Rangaswamy T and Vijayarangan S  
Speaker:

Title: "rubberize your composites—direct bonding between rubber and FRPs"

Author(s): Dr. Jens Schaub  
Speaker: J. Schaub

Title: "Implementation of Induction Welding for Thermoplastic Aerospace Structures"

Author(s): M.J. van Wijngaarden  
Speaker: van Wijngaarden

### **Session IC: Sandwich I**

**Chairman: R. Frassine**

Title: "FE-SIMULATION OF FOLD-CORES MADE OUT OF RESIN IMPREGNATED ARAMID FIBRE PAPER"

Author(s): Sebastian Fischer, Klaus Drechsler  
Speaker: S. Fischer

Title: "New Industrial Preforming Concepts for Complex Transition Areas in Foam Core Sandwich Structures"

Author(s): Pierre C. Zahlen, Benjamin Teich  
Speaker: P. Zahlen

Title: "New FRP-reinforced PMI-Foams for aircraft and transport applications"

Author(s): Dr. M. Alexander Roth  
Speaker: M.A. Roth

13.15 – 14.15

Lunch

14.30 – 16.00

Session 2

**Session 2A: Modelling**

**Chairman G. Ziegmann**

Title: "Finite Element Unit Cell Prediction of Stiffness and Strength Properties of Structurally Stitched CFRP NCF"

Author(s): Henrik Schmidt, Norbert Himmel

Speaker: H. Schmidt

Title: "Composites component design & the role of drape simulation"

Author(s): C Ward, K Potter

Speaker: C. Ward

Title: "Multi-scale modeling of triaxial woven fabrics. Application to satellite antenna"

Author(s): Jean-Sébastien Gérard, Stéphane Catalao, Roger Assaker, Julian Santiago Prowald

Speaker:

**Session 2B: Liquid Moulding**

**Chairmen V. Michaud**

Title: "Reduction of Process Cycle Time and Improvement of Mechanical Properties of Composite Parts Manufactured in Resin Transfer Molding by Application of Grilon MS Binder Yarn"

Author(s): Prof. Dr. Markus Henne, Dipl. Ing. FH Manuel Mueller, Dipl. Ing. ETH Simon Sutter, Dipl. Ing. FH Hermann Spanner

Speaker: M.Henne

Title: "New process technology for continuous fibre-reinforced composites"

Author(s): Prof. Dr.-Ing. Dr.-Ing. E.h. Walter Michaeli, Dipl.-Ing. Jan Wessels, Dipl.-Ing. Lionel Winkelmann, Dipl.-Ing. Kai Fischer

Speaker: J. Wessels

Title: "VOID CONTENT AND VOID FORMATION MECHANISMS IN RESIN INFUSION PROCESSES"

Author(s): S. Aranda, F. Klunker, H. Gabber, G. Ziegmann

Speaker:

**Session 2C: NANO I**

**Chairman A. Maffezzoli**

Title: "The Influence of the Particle Size of Silica on the Ballistic Performance of Fabrics Impregnated with Silica Colloidal Suspension"

Author(s): Bok-Won Lee, Il-Jin Kim and Chun-Gon Kim

Speaker: Bok-Won Lee

Title: "Evaluation of Wear Test Apparatus and Comparative Study on Tribological Properties of Epoxy Nanocomposites"

Author(s): Reija Suihkonen, Sanna Siltaanen, Katja Nevalainen, Jyrki Vuorinen, Pentti Järvelä

Speaker: R.Suihkonen, R. Nevalainen

Title: "Highly Loaded Phenolic based Nanocomposites for Ablative Rocket Combustion Chambers"

Author(s): L. Torre

Speaker: M. Natali

16.00 – 16.20

Coffee Break

16.30 – 18.15

Session 3

**Session 3A: Recycling**

**Chairman B. Griffith**

Title: "Design of an Oblique Cathode of Nano Removal Processes"

Author(s): Prof. P.S. Pa

Speaker: P.S. Pa

Title: "A methodology for the reuse of Uncured Prepreg"

Author(s): C Ward, K Potter

Speaker:

Title: "Post-use CF Composites recycling"

Author(s): Stefano Corianò, Giacinto Cornacchia, Simona Corigliano, Rocco Rametta

Speaker: R. Rametta

**Session 3B: Testing I**

**Chairman W. Buchs**

Title: "Initial Fracture Behavior of Woven Composites under off-axis loading"

Author(s): Mitsuro Takagi, Akiko Odawara, Akio Ohtani, Asami Nakai, Hiroyuki Hamada

Speaker: M. Takagi

Title: "Non Destructive Testing of Polypropylene/Flax Composites"

Author(s): A. ElSabbagh, L. Steuernagel, G. Ziegmann

Speaker: A. El Sabbagh

Title: "Effect of polymer matrix on quasi-static and fatigue filled hole tension and compression tests in liquid moulding non-crimp fabric composites"

Author(s): G. Pinter, M. Wolfahrt, J. Kuntz

Speaker: G. Pinter

**Session 3C: Thermoplastic I**

**Chairman L. Torre**

Title: "Driving forward – polymer composite machine elements in automotive applications"

Author(s): Karl D Dearn, Doug Walter, Ken Mao

Speaker: K.D. Dearn

Title: "Modeling the Accudyne Thermoplastic In Situ ATP Process"

Author(s): Mark A. Lamontia and Mark B. Gruber, John Tierney, PhD and Jack Gillespie, Jr. PhD, Brian Jensen and Bert Cano

Speaker: M. Lamontia

Title: "In-Mould-Forming as a Novel Injection Moulding Process to Manufacture High-Performance Hybrid Composites"

Author(s): Dipl.-Ing. (FH) Thomas Müller, Dr.-Ing. Ines Kühnert, Dr.-Ing. Gerrit Hülder, Prof. Dr. Tim A. Osswald

Speaker: T. Müller

20.00 – 23.00

SAMPE Europe Conference Dinner

08.00 – 17.30

11.00 – 18.15

## Registration Sessions

09.30 – 11.00

## Session 4

### Session 4A: Modelling I

Chairman F. Sanchez

Title: "Stiffness and Strength Determination of 2 and 3-Axial Flat Braiding Composites Using Micro-mechanics Method"

Author(s): Mehmet KARAHAN and Yusuf ULCAI

Speaker:

Title: "HOMOGENIZATION OF THE MECHANICAL BEHAVIOUR OF A LAYER-TO-LAYER ANGLE-INTER-LOCK COMPOSITE"

Author(s): P. Lapeyronnie<sup>1</sup>, P. Le Grogne<sup>c</sup>, C. Binétruy, P. Krawczak and F. Boussu

Speaker: P. Lapeyronnie

Title: "Higher Order Computational Model with 12 DOF for the Stress Analysis of Antisymmetric Angle Ply Composite Plates"

Author(s): K. Swaminathan\*, Govind R. Sangwai

Speaker: K. Swaminathan

### Session 4B: CELPACT I

Chairman A. Johnson

Title: "Novel Structural Core Sandwich Materials for Aircraft Applications: CELPACT Project Overview"

Author(s): A.F. Johnson

Speaker: A.F. Johnson

Title: "On the development of conventional and micro lattice cellular metals as core materials in aerospace sandwich construction"

Author(s): R.A.W. Mines, Y. Girard, V. Fascio

Speaker: Y. Girard

Title: "Sandwich structures with folded core: manufacturing, mechanical behavior and impact performance"

Author(s): S. Fischer, S. Heimbs, S. Kilchert, M. Klaus, C. Cluzel

Speaker: S. Fischer

### Session 4C: Processing I

Chairman P. Ermanni

Title: "Achieving low variability, rework and scrap rates in the production of advanced composite parts"

Author(s): Kevin Potter, Kalyan Hazra & Carwyn Ward

Speaker: K. Potter

Title: "Braided Fabrics: Development and evaluation of adequate test methodologies for generating design allowables"

Author(s): MARKUS WOLFAHRT, GERALD PINTER AND REINHOLD WALTER LANG, TJARK VON REDEN

Speaker: M. Wohlfahrt

Title: "Novel lightweight solutions for highly loaded power transmission components"

Author(s): Prof.Dr.-Ing habil. Werner Hufenbach, Dr.Ing. Olaf Helms, Dr.-Ing. Daniel Wohlfahrt

Speaker: O. Helms

11.00 – 11.20

## Coffee Break

11.30 – 13.00

## Session 5

### Session 5A: Green Composite I

Chairman W. Cantwell

Title: "Measurement of Fiber Content of Injection Molded Jute Fiber/Glass Fiber Hybrid Thermoplastic Composites"

Author(s): Tomoko Ohta, Nobuyuki Jumonji, Hirokatsu Manabe, Ikki Nakamura, Tohru Morii and Hiroyuki Hamada

Speaker: H. Hamada

Title: "Fabrication and mechanical property of cotton fiber reinforced SMC"

Author(s): Osamu Ishizuka, Yuya Hidekuma, Akio Ohtani, Asami Nakai, Hiroyuki Hamada

Speaker: A. Nakai

Title: "Mechanical Properties versus Flammability of New/Recycled Polypropylene/Flax Composites/Magnesium Hydroxide"

Author(s): A. ElSabbagh, L. Steuernagel, G. Ziegmann

Speaker: A. El Sabbagh

### Session 5B: CELPACT 2

Chairman K. Drechsler

Title: "The impact performance of sandwich structures with innovative cellular metal and folded composite cores"

Author(s): G. Lampeas, A.F. Johnson, R.A.W. Mines, M. Klaus, C.R. Siviour

Speaker:

Title: "Multi-scale characterisation and modelling of metallic cellular materials and structures"

Author(s): N. PETRINIC, Y. GIRARD, A. JOHNSON, J. JURACKA, G. LAMPAS, R.

Speaker:

MINES, C.R. SIVIOUR

Title: "Sandwich Structures with Folded Cores: Mechanical Modelling and Impact Simulation"

Author(s): S. Heimbs, S. Kilchert, S. Fischer, M. Klaus, E. Baranger

Speaker: S. Heimbs

### Session 5C: NDT

Chairman W. Strauss

Title: "Residual lifetime prediction of bonded composite structures using in-plane laser shearography"

Author(s): L Lobo, J Tyrer

Speaker: L. Lobo

Title: "A De-Convolution Technique used for NDT in X-ray & CT"

Author(s): K. M. Chui, D. B. Stanfield, A. Wride

Speaker: K. M. Chui

Title: "Non-destructive inspection of impacted hybrid composite plates embedding superelastic shape memory alloy wires"

Author(s): Silvio Pappadà, Rocco Rametta, Alfonso Maffezzoli

Speaker: S. Pappadà

**Session 6A: Textile 2****Chairman R. McCarthy**

Title: "Application of traditional woven technique -Chirimen weaving- to Composite Materials"

Author(s): Hayato Tamoi, Akiko Odawara, Akio Ohtani, Asami Nakai, Hiroyuki Hamada  
Speaker: A. Ohtani / A.Nakai

Title: "The Influence of Braiding Configuration on Damage Tolerance of Drive Shafts"

Author(s): A. Erber, K. Birkefeld, K. Drechsler  
Speaker: A. Erber

Title: "The Permeability of 3D Woven Reinforcements: Influence of the Weaving Pattern"

Author(s): Andreas Endruweit, Andrew Long  
Speaker: A. Long

**Session 6B: Processing 2****Chairman B. Beral**

Title: "A New Compression-Molding Approach Using Unidirectionally Arrayed Chopped Strands"

Author(s): Ichiro Taketa, Narumichi Sato, Masahiro Yamanouchi, Eisuke Wadahara, Akihiko Kitano, Tomonaga Okabe  
Speaker: I. Taketa

Title: "The Influence of Rubber Properties During Hybrid Forming"

Author(s): Valeria Antonelli, Dieter De-coster, Renato Carbone, Roel Marissen  
Speaker:

Title: "New Composite Manufacturing Process with Microwave Technology"

Author(s): Fabrice Gaille, Heike Ringwald  
Speaker: F. Gaille

**Session 6C: Thermoplastic 2****Chairman A. Koelewijn**

Title: "Process Induced Property Gradation of Self-reinforced Polypropylene Composites by Compression Moulding"

Author(s): Passmann D., Ries A., Bledzki A.K.  
Speaker:

Title: "Analysis and development of fiber length maintaining and load case optimized LFT processes by means of an innovative experimental framework"

Author(s): Dipl.-Ing. Thomas Tsigkopoulos (speaker), Dr.-Ing. Robert Feulner, Dr.-Ing. Gerrit Hülder, Prof. Dr. Tim A. Osswald  
Speaker: T. Tsigkopoulos

Title: "Toughening of polymerized CBT for use in composites"

Author(s): J. Baets, I. Verpoest, J. Devaux  
Speaker: J. Baets

**Session 7A: Matrix System****Chairman M. Erath**

Title: "Ultrasonic Binder Activation for Carbon Fibre Preform Manufacturing"

Author(s): H. Ringwald, Prof. K. Drechsler  
Speaker: H. Ringwald

Title: "Novel Thermoset Resin System for Composite Materials"

Author(s): M. Bruijn, K. Vanden Bosche, I. Verpoest, A. Van Vuure  
Speaker: M. Bruijn

Title: "Tough & stiff: the synergy between rubber-toughening and SiO<sub>2</sub>-nanoparticles in GFRC and CFRC"

Author(s): S. Sprenger, A.J. Kinloch, A.C. Taylor, R.D. Mohammed, K. Masania  
Speaker: S. Sprenger

**Session 7B: Properties I****Chairman S. Dellus**

Title: "Evaluation of the effect of LEO environment on nano-filler reinforced thin-ply CFRP composite"

Author(s): Jin-Bum Moon, Myung-Gon Kim, Chun-Gon Kim, Shantanu BHOWMIK  
Speaker: Jin-Bum Moon

Title: "Oxidation Behavior of Three ZrB<sub>2</sub> based Ultra High Temperature Ceramic Composites"

Author(s): M. Mallik, R. Mitra and K.K. Ray  
Speaker:

Title: "Impact Properties of 3D woven fabric reinforced composite"

Author(s): R. Konda, A. Odawara, A. Ohtani, A. Nakai, and H. Hamada  
Speaker: R. Konda

**Session 7C: Process Control****Chairman R. Ramezza**

Title: "MORPHING AND CONTROL OF A SMART FIBRE METAL LAMINATE"

Author(s): W.J. Cantwell  
Speaker: W.J. Cantwell

Title: "Special Fracture Mechanics Problems connected with Multilayer Plastic Pipes"

Author(s): P. Hutar, Z. Kněsl, E. Nezbedova, L. Nahlik, L. Sestakova  
Speaker: P. Hutar

Title: "Characterization of cure kinetics of epoxy resins for evaluation of energy balance and for optimization of the production of thick FRP"

Author(s): G. Ziegmann  
Speaker: G. Ziegmann

# Wednesday, 25<sup>th</sup> March

08.00 – 17.30  
11.00 – 18.15

## Registration Sessions

09.00 – 11.00

## Session 8

### Session 8A: Nano 2

Chairman G. Ziegmann

Title: "SURFACE MODIFICATION OF GLASS FIBERS WITH CARBON NANOTUBES AND THEIR COMPOSITES"

Author(s): Ashish Warriar, Olivier Rochez, Ajay Godara, Luca Mezzo, Frederic Luizi, Larissa Gorbatkikh, Stepan Lomov, Ignaas Verpoest, Aart Willem Vuure, Gerhard Kalinka

Speaker: A. Godara

Title: "Development of Fiber reinforced Nanocomposites for High Performance applications"

Author(s): L. Torre, M. Monti R. Petrucci and J. M. Kenny

Speaker: M. Monti

Title: "Energy Absorbing CNFs included Epoxy Composite Materials"

Author(s): Jae-Soon Jang, Joshua A. Varischetti, Jonghwan Suhr

Speaker: J. Suhr

### Session 8B: Green Composite 2

Chairman I. Verpoest

Title: "Mechanical and Heat-Resistant Property of Jute Fabric Reinforced PLA Molded by Electromagnetic Induction Heating System"

Author(s): K. Tanaka, T. Katsura, T. Katayama & K. Uno

Speaker: K. Tanaka

Title: "A Study on Application of Underwater Shock Wave on Cotton Yarn and Its Characteristics"

Author(s): G.M. Shafiur Rahman and Shigeru Itoh

Speaker: G.M. Safiur Rahman

Title: "Matching surface energies of thermoplastic composites with natural fibres"

Author(s): Ir. Tom Houthoofd, Prof. Dr. Ir. Ignaas Verpoest, Dr. Ir. Aart-Willem Van Vuure, Ir. Geert Demeurisse

Speaker: T. Hoodhofd

### Session 8C: Thermoplastic 3

Chairman L. Torre

Title: "On line consolidation of commingled PP/glass roving during filament winding"

Author(s): Riccardo Gennaro, Alfonso Maffezzoli, Fabio Fracasso, Simone Fracasso

Speaker: A. Maffezzoli

Title: "Tribology of PEEK-based Composite Materials"

Author(s): G. Zhang, A. K. Schlarb

Speaker:

Title: "Quickstep Manufacturing of Thermoplastic-matrix fibre metal laminates"

Author(s): M. Mujib, WJ. Cantwell and R. Day

Speaker: WJ. Cantwell

11.00 – 11.20

## Coffee Break

11.30 – 13.00

## Session 9

### Session 9A: Panel Session "Tooling"

Chairmen L. Cohen / M. Erath

Confirmed Participants:

Murray L. Scott, Cooperative Research Centre for Advanced Composite Structures, Fishermens Bend, Australia

Benny Teal, NOVA TECH Engineering LLC, Lynnwood, WA 98038

Colin Britles, COAST Composites Inc., Irvine, CA 92618

Marc Morel, LOIRE MOULAGE, F-44470 Mauves-sur-Loire

Maurice Guitton, Composites Atlantic Limited, Lunenburg, N.S., Canada

Clive Bennett, Advanced Composite Group, Henor, Darby-UK

Peter Janicki, Janicky Industry, Sedro Wooley, WA 98284

Speaker: 7 specialists :

Rowan Paton, Cooperative Research Centre, Fishermens Bend, Australia

Benny Teal, NOVA Tech, Lynnwood, WA 98038

Colin Britles, COAST Composites, Irvine, CA 92618

Marc Morel, Loire Moulage F-44470 Mauves-sur-Loire

Maurice Guitton, Composites Atlantic, Lunenburg, N.S., Canada

John Nixon, Advances Composites Darby, UK

Peter Janicki, Janicky Industry Sedro Wooley, WA 98284

### Session 9B: Processing 3

Chairman A. Schlarb

Title: "MULTIFUNCTIONAL COMPOSITES "VIATRON" IN CONSTRUCTION"

Author(s): Raisa Antonovna Yakovleva, Kostyuk Tatyana, Proshchyn Oleg, O.Yu. Proshin

Speaker: M.A. Faruqi

Title: "Evaluation of a practical single shear anchoring strength model for composite laminates bonded to concrete structures for strengthening purposes"

Author(s): M. A. Faruqi, J. Sai and P. Ghavami

Speaker: D. Bondarenko

Title: "AN ENGINEERING PERSPECTIVE ON SPRINGBACK ALLEVIATION"

Author(s): David A. Perez Ciurezu, Isaac Prada-Nogueira, Pedro L. Muñoz Esquer, Alfredo Güemes

Speaker: J. Prada-Nogueira

### Session 9C: Joining

Chairman A. Long

Title: "Quick hardening of structural bonds from fiber reinforced plastics during production and repair"

Author(s): Frauenhofer, Stefan Böhm, Klaus Dilger

Speaker:

Title: "Response of Double-Side Repaired Notched Aluminum Plate Subjected to Charpy impact"

Author(s): S.M.R. Khalili, M. Sadeghinia

Speaker: S.M.R. Khalili

Title: "Creep behavior of fibre reinforced adhesive in single lap joint"

Author(s): S.M.R. Khalili, R. Eslami Farsani, A. Fathi

Speaker: S.M.R. Khalili

**Session IOA: Modelling 2****Chairmen J. Kenny**

Title: "A New Improved High-Order Theory for Vibration Analysis of Sandwich Panels with Flexible FGM Core"

Author(s): S. M. R. Khalili, S. A. Jafari, K. Malekzadeh, B. Eftari, M. H. Shakib  
Speaker: S.M.R Khalili

Title: "Advances in the simulation of the overbraiding process using FEM"

Author(s): Jan Stueve, Thomas Gries  
Speaker: J. Stüve

Title: "Damage initiation and development in textile composites: A gallery"

Author(s): S.V. Lomov, D.S. Ivanov, V. Koissin, J. Kustermans, K.Vallons, J.Xu, I. Verpoest  
Speaker: S. Lomov

**Session IOB: Education****Chairman A. Kwakernaak/Students**

Presentation of Award winning student of SAMPE Europe Students Conf. 2009

SAMPE USA Student Award 2008:  
Amanda Lim

JEC Student Award 2009 on Environmental Aspects

**Session IOC: Properties 2****Chairman J. Vuorinen**

Title: "Influence of the fibre tension on the properties of the filament wound tubes"

Author(s): Kirsi Turto, Tommi Berg, Jyrki Vuorinen  
Speaker: K.Turto / M.Berg

Title: "An Investigation into the Fracture Properties of All Polypropylene Sandwich Structures"

Author(s): Md. Z. Hassan, WJ. Cantwell  
Speaker: Z. Hassan

Title: "The Mode III interlaminar fracture properties, GIIC, of two composites are investigated at crosshead displacement rates up to 3 m/s, using the Edge Crack Torsion (ECT) geometry. The test results highlighted an important crack length dependency in all the samples, with the Mode III fracture toughness increasing steadily with crack length."

Author(s): D. Pennas AND WJ. Cantwell  
Speaker: WJ. Cantwell

**Session IIA: Aero Testing****Chairman S. Beckwith**

Title: "Design and Application on a Test Stand"

Author(s): Y. Liu, P. Zogg, P. Ermanni  
Speaker: Y. Liu

Title: "Delamination under Fatigue loading: experimental testing and simulation by means of cohesive elements"

Author(s): J. Costa, A. Turon, J. Vicens, N. Blanco, P.P. Camanho  
Speaker: A. Turon

Title: "Laser Forming of Glass Fibre Based Fibre Metal Laminates"

Author(s): C. CAREY, S. P. EDWARDS, G. DEARDEN, K. G. WATKINS, W. J. CANTWELL  
Speaker: WJ. Cantwell

**Session IIB: Testing 2****Chairman J. Steidl**

Title: "Finit Element Analysis of residual and assembly Stresses in Composite Parts"

Authors: Tomasz Garstka, Garry Cole, David Irving, Paul Lyons  
Speaker: P. Lyons

Title: "High Resolution, Low Cost Ultra-sond Camera for In-Service Composite NDI"

Authors: Robert Lasser, Marvin Lasser, Ron Westernik, John Kula, David Rich  
Speaker: B. Lasser

Title: "Scaling Effects in the low Velocity Impact Response of Fibre Metal Laminates"

Authors: J.G. Carrillo, F. Yang, WJ. Cantwell  
Speaker: F. Yang

**Session IIC:****Chairman**

## SAMPE Europe 30th. Jubilee SEICO Conference Gala Dinner and Award Remittance

All SEICO 09 Jubilee Conference attendees with registration for the whole 3 days, or with a part-time registration, including Monday March 23rd. 2009, are kindly invited to attend SEICO 09 Jubilee Conference Gala Dinner with Award remittance: SAMPE Europe Award 2009 – SAMPE Europe Student's Award 2009 – as well as JEC Student's Award 2009 – as well as the JEC Student's Award 2009.

**The Gala Dinner and Award Ceremony** will be held at the SEICO 09 Conference HOTEL MERCURE, Paris Porte de Versailles Vanves, on **Monday, March 23<sup>rd</sup>. 2009**, from **20.00h – 23.00h pm**.



Your conference badge serves as access control for the Gala Dinner. Complementary access cards are available from the Conference Desk at € 100.00 TTC each.

### SEICO 09 Partners Event

Spouses, Partners and Friends of SEICO 09 attendees and delegates are kindly invited for Coffee on Monday March 23rd. 2009, at 11.15h am at the Ground floor of Hotel MERCURE, in front of the registration desk. This get-to-gether provides an opportunity to meet peoples with similar interests of who may become more familiar with Paris and its cultural aspects. Anyone requiring more information should contact Elaine Griffiths by e-mail at: [egriffiths@doctors.org.uk](mailto:egriffiths@doctors.org.uk)

### SEICO 09 Full Catering Care for Attendees

All registered attendees will enjoy a full catering care, each day of the SEICO 09, consisting of welcome coffee prior to the first session in the morning, morning coffee-break from 11.00-11.20h – lunch from 13.15 – 14.15h – afternoon coffee break from 16.00 -16.20h.

### SEICO 09 VISA request for immigration to France / EU

If you require a Visa for entering France / EU , please contact at the very early moment, SAMPE Europe by e-mail ( [erath@bluewin.ch](mailto:erath@bluewin.ch)) to provide you an invitation letter for your Visa application at the nearest French Embassy or Consulate of your country of residence.

### SEICO 09 Proceedings

All attendees of SEICO 09 will get the SEICO 09 Conference Proceedings, processed in English on a CD Rom, which is an integrated element of your individual conference bag. Complementary copy are for sales at the Conference Registration Desk, price : € 70.00/pc.



## Why not join SAMPE Europe ?

SAMPE Europe, with its 12 national and regional organisations and chapters has nearly 1100 registered members. It offers to each new member a very attractive network of local and national, European and Worldwide contacts through its meetings, seminars and conferences, where the latest results of research work, development and application in industry are being presented and discussed.

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SAMPE Europe would be very pleased to welcome you as a new member!

# SAMPE Europe 30<sup>th</sup>. Jubilee SEICO International Conference and visit to the 44<sup>th</sup>. JEC Composite Show at Paris EXPO Complex Porte de Versailles. 75015 Paris

## Conference Location and Registration:

Hotel MERCURE Paris Porte de Versailles Expo  
36-38 Rue du Moulin, F – 92174 Vanves (Paris)  
Tel. +33 1 46 48 55 55 – Fax +33 1 46 48 56 56  
E-Mail: H0385-SB1@accor-hotels.com

### Registration:

Sunday, March 22<sup>nd</sup> 2009 – 17.00 – 19.00h  
Monday, March 23<sup>rd</sup> 2009 – 08.15 – 17.30h  
Tuesday, March 24<sup>th</sup> 2009 – 08.15 – 17.30h  
Wednesday, March 25<sup>th</sup> 2009 – 08.15 – 16.30h

### The Conference Language is English

**Viste the SAMPE Europe Booth at JEC Composite Show 2009 located at the JEC Show Main Entrance Gate to the left**

At the SAMPE Europe booth all posters from the two Student's Conference 2009 will be exposed.

SAMPE Europe Membership service will have an Information Desk  
Proceedings from previous year's SEICO and SETEC Conferences are for sales



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