

5th International Carbon Composites Conference

May 9-11, 2016

Palais des Congrès

ARCAÇHON – FRANCE



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COMPOSITES

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After 4 successful editions in 2007, 2009, 2011, 2014, Avantage Aquitaine is pleased to confirm you The 5th International Carbon Composites Conference, to be held in Arcachon, France, MAY 9-11 2016.

The conference will bring together scientists, designers, manufacturers and end users from the academic, institutional and industrial "Carbon Fibre Composite World". This is a unique opportunity to meet together all players in the use of Carbon Fiber Composite Materials. This is a unique place for many formal and informal opportunities for exchanges, networking and cross-fertilization. You will meet at a time scientists presenting their latest achievements as well as large industrial players and start-up companies proposing very brand new applications and services. You will also have fruitful discussions with educational organizations who are preparing and training future technical Managers. You will meet institutional representatives and identify R&D support for your

next developments.

Speeches and plenary lectures will be organized in order to bring you the latest overview on carbon composites for cold and hot high demanding applications, latest trends on future of carbon fibers market including environmental issues.

We are looking forward to welcoming you in the very nice city of Arcachon, giving you also the opportunity of discovering the charm of the Bay and the sandy wild beaches of the Atlantic Coast.

You will have the chance to taste the famous oysters and the Bordeaux wines, whilst exchanging on following topics:

Materials

- Fibres and Fabrics
- Thermoset and Thermoplastic Resins
- Ceramics
- Bio Sourced Solutions

Structure design

- Static & Dynamic Design & Simulation Tools
- Damage Analysis and Repair
- Bonding and Joining

Efficient Manufacturing Technologies

- Impregnation Process
- Processing & Process Simulation
- Assist Lay-Up, Fiber Placement, Filament Winding
- Innovative/Out of Autoclave Curing

Qualification and Certification

- Material Characterization
- Structural Testing
- Non Destructive Testing

Virtual Design, Virtual Testing, Virtual Manufacturing

Health Monitoring

Damage Tolerance

Maintenance and Overhaul

Life Cycle Cost Analysis

Eco-Design

Bio-Sourcing

Recycling and Environmental Issues

Carbon Nanotechnologies

Carbon and Non-Carbon High Performances

Ceramics

Day 1 - May 9th

8h00 - 9h00	REGISTRATION		
9h00 - 9h15	OPENING SESSION INTRODUCTION Jean-Luc Macret, Conference Chairman, Airbus D & S - FRANCE		
	INTRODUCTION PLENARY KEYNOTES - 1		
9h15-9h45	More Competitive Carbon Composites for Better Mobility > <i>Sung Kyu HA, HANYANG University - KOREA</i>		
9h45-10h15	Carbon Fibre : Expectations and Reality > <i>Franck GLOWACZ, JEC Magazine - FRANCE</i>		
10h15-10h45	A New Approach for the Prediction of the Mechanical Properties of Carbon Fiber Composite Material > <i>Thierry MASSARD & Stephen TSAI, THINK COMPOSITES - FRANCE</i>		
10h45-11h15	COFFEE BREAK		
	EFFICIENT MANUFACTURING - 1	ASSEMBLY AND JOINING - 1	ECO-DESIGN / RECYCLING / BIOSOURCING - 1
11h15-11h35	Tape Winding with Thermoplastic Composite Materials: Challenges for Design and Manufacturing > <i>Benoît COURTEMANCHE, CETIM - FRANCE</i>	Designing Multimaterials Bonded Assemblies : Characterisation, Modelisation and Validation > <i>Jean-Pierre JEANDRAU, CETIM - FRANCE</i>	Preparation of a Thermoplastic Sizing Based on Aqueous Dispersion > <i>Aurélié MALHO RODRIGUES, IRT Saint Exupery - FRANCE</i>
11h35-11h55	Integrated Cost Effective Black Structures > <i>Víctor DIAZ, AIRBUS D & S - SPAIN</i>	High-Temperature Welding of Thermoplastic and Thermoset Composites > <i>Irene FERNANDEZ VILLEGAS, Delft University of Technology - THE NETHERLANDS</i>	Carbon Composites Based on Polynorbornene Thermosets > <i>Jerome CLAVERIE, Quebec University - CANADA</i>
11h55-12h15	Hybrid ThermoplasticTechnology: The Way To Get a Finished Complex Part in a one Step Process > <i>Stéphanie LAMBOUR, SINTEX NP - FRANCE</i>	Innovative Compact Hinge System Enabling Spontaneous Deployment and Locking > <i>Aurélié LEONARDI, CLIX Industries - FRANCE</i>	Microstructure and Mechanical Behaviour of Thermoplastics Composites Made from Carbon Fibres Recycled by Steam-Thermolysis > <i>Maxime BOULANGHIEN, Alpha Recyclage Composites - FRANCE</i>
12h15-12h35	Decrease Composites Manufacturing Costs through Curing Understanding > <i>Didier LANG, Airbus Group Innovation - FRANCE</i>	Joining Composite Structures: Towards a Design which Takes into Account the Geometrical Defects and Variabilities > <i>Christophe BOIS, Bordeaux University, I2M - FRANCE</i>	Development of a Low-Viscosity Bio-Based Ablative Resin for Thermal Protection Systems > <i>Bastien RIVIERES, AIRBUS D & S, ICMR - FRANCE</i>
12h35-14h00	LUNCH		
	PLENARY SESSION - 2		
14h00-14h30	Carbon Fibers Market Overview > <i>Guillaume DEIXONNE, TORAY Carbon Fibers Europe - FRANCE</i>		
14h30-15h00	Carbon Fiber Demand and Capacity Outlook > <i>Nathalie SCHMITZ, Hexcel Composites - FRANCE</i>		
15h00-15h30	Airbus - Multifunctional Composites Structures Specific Needs > <i>Alain PORTE & Pierre-Henri CADAUX, AIRBUS - FRANCE</i>		
15h30-16h00	COFFEE BREAK		

Programme

Day 1 - May 9th

	EFFICIENT MANUFACTURING - 2	ADVANCED DESIGN & SIMULATION - 1	FIBERS & PREPREGS - 1
16h00-16h20	FibreMap: Automatic Mapping of Fibre Orientation for Draping of Carbon Fibre Parts > <i>Arnaud DEREIMS, ESI Group - FRANCE</i>	Thermo-Mechanical Simulation of the Automated Tape Laying (ATL) Process with PAM-FORM > <i>Yann DUPLESSIS KERGOMARD, ESI Group - FRANCE</i>	FORCE Project : A "Low Cost" Carbon Fiber for a More Intensive Use of Composites > <i>Célia MERCADER, CANOE - FRANCE</i>
16h20-16h40	Energy Efficient Contour Close 3D Tool Heating System for the Production of Fiber-Reinforced Composite Parts > <i>Jan-Patrick JÜRGENS, ISEMP - GERMANY</i>	A Micromechanical Evaluation of the Effect of Fiber Shape in Carbon Fiber Composites > <i>Carlos González GONZÁLEZ, IM-DEA MATERIALS INSTITUTE - SPAIN</i>	High Prepreg-quality as Basis for Optimal Composite Structural Parts – New Technologies for Coating and Impregnation Resulting from Research Activities with Leading Prepreg-suppliers > <i>Andrea GLAWE, KROENERT - GERMANY</i>
16h40-17h00	Contribution for a Better Understanding of Consolidation : Application to Automated Tape Placement > <i>Anaïs BARASINSKI, Ecole Centrale Nantes - FRANCE</i>	Space Composite Struts Trade Off Following Different Needs > <i>Yohann LEDRU, MECANO I&D - FRANCE</i>	Unidirectional Tapes Made of Carbon Fibers and New High Temperature Polyamide > <i>Gilles HOCHSTETTER, ARKEMA - FRANCE</i>
17h00-17h20	Dry Fabric Preform Automated Lay Up Processes for Composite Aircraft Structure > <i>Asier GANDARIAS MINTEGI, DANOBAT - SPAIN</i>	Advanced Methods to Make Structures more Robust and Cost Effective > <i>Florian LAVELLE & Alain BERGEROT, CNES & AIRBUS D & S - FRANCE</i>	Cure Modelling and Optimization of Carbon/Epoxy Prepreg for Solid Rocket Motor Cases Application > <i>Erica Anna SQUEO, AVIO S.p.A - ITALY</i>
17h20-17h40	Cohesive Zone Model Measurement - Theoretical and Experimental Assessment of Current Techniques > <i>Julien JUMEL, Bordeaux University, I2M - FRANCE</i>	3-Dimensional Compressive RTM Virtual Manufacturing > <i>Pierre MARQUETTE, ESI Group - FRANCE</i>	Fiber/Matrix Interfaces in Continuous Fiber Reinforced Thermoplastic Composites > <i>Jean-François GERARD, INSA Lyon - FRANCE</i>
17h40-18h00	Physico-Chemistry of Vinylester / Carbon Fiber Interfaces Used in SMC Composites > <i>Thibaut BÉNÉTHUILIÈRE, INSA de Lyon - FRANCE</i>	Multi-Scale Progressive Failure Analysis for Accurate Virtual Testing of Composites > <i>Roger ASSAKER, e-Xstream ENGINEERING - BELGIUM</i>	European Space Qualified Carbon Fibres and Pre-Impregnated Based Materials > <i>Nuno ROCHA, INEGI - Portugal</i>
20h00	IC³ CONFERENCE GALA DINNER		

Day 2 - May 10th

PLENARY SESSION - 3

8h30-9h00

Composite Materials Overview in ESA FLPP Activities
> *Adriana SIRBI, ESA / ESTEC - THE NETHERLANDS*

9h00-9h30

Launchers Structures Roadmap
> *Florent BOURNEAUD, AIRBUS D & S - FRANCE*

9h30-10h00

Thermoplastic Composites in Aerospace
> *Arnt OFFRINGA, Fokker Aerostructures B.V. - THE NETHERLANDS*

10h00-10h30

Fatigue Withstanding and Thermal Transfer Issues about Curing, Deicing, or Vibration Monitoring Grids within Large Composites Parts
> *Guillaume TIBERGHIEU, TIBTECH - FRANCE*

10h30-11h00

COFFEE BREAK

COMPOSITES FUNCTIONALIZATION - 1

ADVANCED DESIGN & SIMULATION - 2

CMC

11h00-11h20

From Formulation to Final Composite Parts: Functionalized High-Performance and Cost-Effective Composites Made from UD Thermoplastic Tapes
> *Thibaut SAVART & Fernando RODRIGUEZ, CANOE FIDAMC - FRANCE*

Thermomechanical Modelling of the Laser-assisted Filament Winding Process
> *Cyril DEDIEU, Ecole Centrale Nantes - FRANCE*

From Analysis to Flight Measurements : the Development of European Ceramic Matrix Composite TPS on the IXV Vehicle
> *Thierry PICHON, HERAKLES SAFRAN - FRANCE*

11h20-11h40

Thermal Characterization of Conductive Polymeric Nanocomposites under an Electrical Field
> *David BRASSARD, Ecole Polytechnique de Montreal - CANADA*

Contribution of Advanced and non Linear Material Behaviour Law for Sizing Industrial Composite Structures
> *Cedric HUCHETTE, ONERA - FRANCE*

CMC Centerbody : 3 World Premieres. From the Design Phase to Airline Flights
> *Yann RICHARD, HERAKLES CERAMICS - FRANCE*

11h40-12h00

Carbon Fiber/Poly Ether Ketone Ketone / Silver Nanowires Composites : Electrical Conductivity and Mechanical Properties
> *Colette LACABANNE, CIRIMAT - FRANCE*

Carbon Fibre-Thermoplastic Matrix Interface Optimization and Interphase Modification by Eco-Friendly Process in Thermal and Dimensionally Stable Composite Structures
> *Arnaud MARTIN, Luxembourg Institute of Science and Technology (LIST) - Luxembourg*

Multi-Scale Study on Silicon-Carbide Composite
> *Sébastien DENNEULIN, HERAKLES Groupe Safran - FRANCE*

12h00-12h20

Multifunctional Materials Optimization
> *Alain VINET, Airbus Group Innovation - FRANCE*

Mesoscopic Simulation of Ballistic Impact on Dry Fabrics with Carbon Fibers
> *Jérémie GIRARDOT, Bordeaux University, I2M - FRANCE*

On the Use of CMC in Aeronautics
> *Didier MOCAER & Pascal DISS, HERAKLES / IRT St Exupéry - FRANCE*

12h20-13h50

LUNCH

COMPOSITES FUNCTIONALIZATION - 2

DAMAGE, NDT & CONTROL - 1

ECO-DESIGN / RECYCLING / BIO-SOURCING - 2

13h50-14h10

Ag Nanoparticles for Increasing Thermal Conductivity of PEEK Composites
> *Lisa RIVIERE, CIRIMAT - FRANCE*

Evaluation of the Critical Energy Release Rate under Impact for Thermoplastic Composite Laminate Using Infrared Thermography
> *Pablo GARCIA PEREZ, Arts et Métiers ParisTech - FRANCE*

FLAX, its New Market Opportunities, Today and Tomorrow
> *Bruno DELLIER, LINEO - FRANCE*

14h10-14h30

PAEK / Piezoelectric Particles Nanocomposites for Interactive Structures
> *Camille BESSAGUET, IRT Saint Exupéry - FRANCE*

Woven Carbon Textiles, Constitutive Laws, Impact Damage, Hail Impact
> *Augustin GAKWAYA, Laval University - CANADA*

New Thermoset Resins of Tannins Extracted from Eastern Canada Bark Species
> *Patricia ROBERT, SEREX - CANADA*

Programme

Day 2 - May 10th

	COMPOSITES FUNCTIONALIZATION - 2	DAMAGE, NDT & CONTROL - 1	ECO-DESIGN / RECYCLING / BIOSOURCING - 2
14h30-14h50	Design of Self-Healable Epoxy/Carbon Fiber Interfaces from Diels-Alder Chemistry > <i>Jannick DUCHET-RUMEAU, INSA Lyon - FRANCE</i>	Developed Technologies for Damage Simulation in Ultrathin Composite Reinforcements and Novel Material with Outstanding Impact Performance > <i>Florence RINN, TeXtreme - SWEDEN</i>	Thermoplastic/Bamboo Filler Composites : Physical Structure and Mechanical Properties > <i>Geoffrey HADDOU, CIRIMAT - PHYPOL - FRANCE</i>
14h50-15h10	Advanced Functionalization through CFRP Overmoulding > <i>Mathieu SCHWANDER, PEP (Pole Européen de Plasturgie) - FRANCE</i>	Carbon Composites Damaging > <i>Ludovic BALLERE, AIRBUS D & S - FRANCE</i>	Crossing the Biomass Feedstocks for Novel Bio-Sourced Polymers > <i>Henri CRAMAIL, LCPO - FRANCE</i>
15h10-15h30	Electro Structural Composites (ESC) Structures - Composites Functionalization > <i>Guy LARNAC & Michel BERMUDEZ, AIRBUS D & S & AGI - FRANCE</i>	Experimental Investigation and Discrete Element Modeling of Composite Hollow Spheres Subjected to Dynamic Fracture > <i>Arthur CORÉ, Arts et Métiers Paris-Tech -I2M - FRANCE</i>	Non Toxic Precursor for Ablative Composites > <i>Gabriel FOYER, HERAKLES - FRANCE</i>
15h30-16h00	COFFEE BREAK		
	ASSEMBLY AND JOINING - 2	DAMAGE, NDT & CONTROL - 2	
16h00-16h20	Development of an Elastomer Joint between Thermoplastic Composites for Launch Vehicles > <i>Amélie GASTON, INSA Lyon - FRANCE</i>	Multiscale Approach for the Building of a Predictive Numerical Model of a New Wing Architecture > <i>Clément FLEURET, CRITT Matériaux - FRANCE</i>	
16h20-16h40	Onto™ Adhesion Promoters: Preparing Carbon Fibre Composites for Bonding, Painting and Lacquering > <i>Jon-Paul GRIFFITHS, Centre for Innovation & Enterprise - UNITED KINGDOM</i>	A Hybrid Continuum-Cohesive Composite Damage Model for the Application in an Explicit Crash Simulation > <i>Sebastian MÜLLER, ESI GmbH - GERMANY</i>	
16h40-17h00	Innovative Assembly Technologies for Composites > <i>Pierre LESPAGE, IRT Saint Exupéry - FRANCE</i>	Computational Modelling of the Progressive Failure in Carbon Composites > <i>Thimothée GENTIEU, Bordeaux University, I2M - FRANCE</i>	
	PLENARY SESSION - 3		
17h00-17h20	Technologies for Future Solid Propulsion: Thermoplastic Booster Cases > <i>Brigitte DEFOORT, AIRBUS D & S - FRANCE</i>		
17h20-17h40	Cost-effective CFRP Brackets for Launcher and Spacecraft Structures > <i>Javad FATEMI, Airbus D & S - THE NETHERLANDS</i>		
17h40-18h00	Inlet Cowl: from a Diversification Strategy to a Core Business Activity > <i>Stéphane VACHER, Airbus Operations SAS - FRANCE</i>		

Day 3 - May 11th

PLENARY SESSION - 4

8h30-9h00

Drivers for Composite Usage Cost Reduction
> Bob GRIFFITHS, ERG Ltd - UNITED KINGDOM

9h00-9h30

The Full High Performances Composite Axle
> Bertrand FLORENTZ, HUTCHINSON - FRANCE

ROUND TABLE chaired by Philippe BRIANT

9h30-10h00

When and under what Conditions a High Performances Composite Solution will Be Profitable
> Round Table Moderator : Philippe BRIANT

10h00-10h30

COFFEE BREAK

HIGH PERFORMANCE APPLICATIONS

10h30-10h50

Development of Mass and Cost Efficient Grid-stiffened Launcher Structures
> Leonid PAVLOV, ATG Europe - THE NETHERLANDS

10h50-11h10

Cryogenic Composite Tanks for Future Launcher Application
> Jesús GÓMEZ GARCIA, ASL - GERMANY

11h10-11h30

ASL Composite Booster Mastering - The Biggest Carbon Monolithic Booster Case Prototype ever Done
> Mathieu FORZAN, AIRBUS D & S - FRANCE

11h30-11h50

Potentials of Laser Processing for Composites Industry
> Charly LOUMENA, ALPHANOV - FRANCE

11h50-12h10

Overview of Research on Composite Panels for Fuselage Applications
> Peter LINDE, AIRBUS - GERMANY

CONCLUSION

12h10-12h30

5TH IC³ CONCLUSION

12h30-14h00

FAREWELL LUNCH

GENERAL INFORMATION

GENERAL LOCATION

Palais des Congrès d'Arcachon Boulevard Veyrier Montagnères
33120 Arcachon – France
(3/4 hour drive from Bordeaux International Airport)

LANGUAGE

Papers will be presented in English. Simultaneous translation facilities will not be available.

SECRETARIAT

All correspondence and inquiries should be sent to the conference secretariat.
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