ICS Innovative Composites Summit

PARIS · MARCH 12, 13, 14, 2013

Porte de Versailles

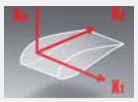
PROGRAM

12 thematics
70 papers
70 leading companies

Design & processing

Tuesday 12

Design
From behaviour simulation to product development



Multifunctional
An additional asset for the composite industry

NDT
Increasingly numerous and performant techniques

Robotization
Dedicated innovative solutions for composite manufacturing

Application sectors

Wednesday 13

Wind Energy
Innovative design and performant materials for better blade

Automotive
Mass Production: Well established solutions

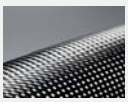
Automotive
Alternative solutions: Unlimited innovation

Aeronautics
The new challenges of aircraft design

Materials

Thursday 14

Carbon
The all process chain: market, design, manufacturing, recycling



Biocomposites
Bio based materials and solutions ready to be used

Sustainability
Solutions for today!

Thermoplastics
A keen interest for well adapted systems

THE N°1 COMPOSITES CONFERENCES IN THE WORLD

jecmagazine COMPOSITES
OFFICIAL MEDIA SUPPORT

SAERTEX Reinforcing Your Ideas
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JEC GROUP

With the testimony of:

- 3B- The Fiberglass Company & Composite Technology Centre
- A · Aditya Birla Chemicals
- Agilent Technologies Uk Ltd
- Agrocomposites Entreprises
- Aimplas - Technological Institute Of Plastics
- Airbus
- Airbus Operations Ltd.
- Altran Imp
- Amorim Cork Composites
- Anguil Environmental Systems, Inc.
- Ashland Performance Materials
- B · Bct Gmbh
- C · Cchp
- Ccp Composites
- Celc Ku Leuven
- Cetim
- Chomarat
- Chonbuk National University
- Circomp Company
- Concordia Fibers
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- D · DSM Composite Resins
- Dynamore Gmbh
- E · Ecm
- Engel
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- J · John Mansville
- K · Kairos
- Kitech
- Korea Institute Of Energy Research
- Ktm Technologies
- L · Laboratoire I2m
- Laser Zentrum Hannover E.V.
- Lcp - Université Paris-Sud
- Lineo/Invent
- M · Momentive Specialty Chemicals
- N · Nanoprofile Gmbh
- National Aerospace University "Khai"
- Notox
- O · Owens-Corning
- P · Perun Tm Eood
- PSA
- S · Safran Composites
- Sarrebruk Fraunhoffer
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- Sgl Group
- Siemens Plm Software
- Stanford University
- Synthesites Innovative Technologies
- T · Teknodrom
- The Ultran Group
- U · Universidad Do Minho
- University Of Borås
- University Of Nottingham
- University Of Warwick
- University Of Washington
- V · Volkswagen Ag

Who is JEC ?

JEC is the largest composites industry organization in Europe and in the world with a network of 250,000 professionals. JEC represents, promotes and expands composites markets by providing global awnd local networking as well as information services. Through Knowledge and Networking, the JEC experts offer a comprehensive service package: the JEC publications – including strategic studies, technical books and the JEC Composites Magazine – the JEC World Market News e-letter in English and French. It also organizes Composites Shows and Conferences i.e. JEC Asia, JEC Americas and the global reference JEC Europe in Paris, world and European leader, strongly supported by the industry and thus, five times bigger than any other composites exhibition in average, the www.jeccomposites.com website, the JEC Composites CONFERENCEs and Workshops, and the JEC Innovation Awards Program.

YOUR CONTACTS

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Edito

New advances in composites: from raw materials to innovative applications

Dear composite professionals,

The composite materials field's rapid expansion has made it a key factor in today's industry. Important challenges such as light-weighting, cost efficiency and reducing the amounts of raw materials are driving the composite industry to always be innovative.

The goal of our Innovative Composites Summit (I.C.S.) is to bring all the latest technologies, trends and detailed information to professionals who wish to improve their knowledge about composite materials.

At this event, the first day's theme is Design & Processing. This stage of composite materials development is essential whether it concerns the structural shape of the part or the material architecture. As a direct result, robotization and automation techniques are increasingly made use of nowadays, as they greatly facilitate mass production.

Furthermore, at the end of the process chain, users need non-destructive tests in order to evaluate the part's properties without damaging it and these techniques are becoming more and more widespread and innovative.

Following this first approach, the second theme of our event relates to the Applications Sectors. The automotive industry is a major factor in the composite world, with considerable challenges such as weight reduction, cost effectiveness and the rapid evolution of electric cars.

With recent aircrafts made up of more than 50% of composite materials, the aerospace industry has taken the measure of the new possibilities offered by innovative processes and materials.

Green energies like wind energy are becoming unavoidable as concern for climate change is steadily growing. New moulds for larger and longer wind turbine blade structures are currently being designed and repair techniques insuring a longer life are being considered.

Finally, the last day focuses on the source of everything: the Materials. Carbon fibers have long been considered marginal due to their prices, but thanks to their superior properties they are becoming a major part of the composite industry, thus lowering their overall cost.

Thermoplastics represent the future of the composite industry and new designs and technologies are continuously being made use of, and surely bringing recyclable composite a little closer.

The search for cleaner and greener materials is unavoidable nowadays, and natural fibers have proven their value to the composite industry. Life Cycle Analysis's on biocomposites are also an important tool to ensure that these materials are indeed sustainable.

Thanks to its international network of over 250,000 professionals, industrialists and scholars were selected as speakers in order to find the best fit for our topics, offering you a unique educational platform as well as networking opportunities.

We look forward to meeting you at the I.C.S. Conferences in Paris.

The conference team

Key Topics

Design & processing

Application sectors

Materials

DESIGN CONFERENCE

From behaviour simulation to product development

Key focus

- Cost effective approach to product development
- Closing the gap in the simulation process chain

CHAIRMAN

Stanford University

Stephen W. Tsai
Professor, Dept. of Mechanical Engineering

Opportunities in composites manufacturing

STANFORD UNIVERSITY

Stephen W. Tsai
Professor, Dept. of Mechanical Engineering

- Transition between design and manufacturing
- New family of herringbone tapes made from C-Ply

Composites product development, a multi disciplinary approach

SIEMENS PLM SOFTWARE

Leigh Hudson
Marketing & Sales Manager

- Requirements to achieve a truly optimized composite product
- Cost effective multi-disciplinary approach

Laminate Properties of C-Ply Composites

STANFORD UNIVERSITY

Alan Nettles
Composite Materials Engineer

- Flexibility of the bi-angle thin-ply NCF
- Novel laminates and their layup processes

The simulation and optimisation of carbon multiaxial fabrics

FORMAX

Robert Paul
Head of R&D

- Modelling of a multiaxial fabric and assessment of how a manual forming process can be simulated
- Development of PAMFORM software

Simulation of mechanical behavior of composite pressure cylinder using finite element analysis

UNIVERSIDAD DO MINHO

Dr João Velosa
Materials Engineer

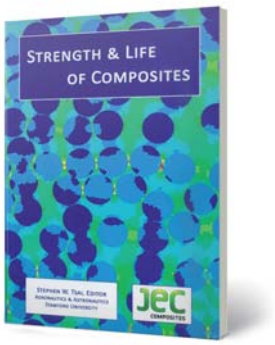
- New generation of composite pressure vessels for large scale market applications
- Prediction of their mechanical behaviour

From productibility to serviceability simulation of long fiber reinforced parts

DYNAMORE GMBH

Dr Andrē Haufe
Methods/Process Head of Department

- Fiber reinforced polymers in future lightweight designs of transportation systems
- Simulation process chain from draping to curing up to the prediction of final part properties



TECHNICAL BOOK:
Strength & Life of Composites
Available at the Publications Store
Special JEC discount on site! -20% per copy

Speakers biography

CHAIRMAN

Stanford University

Stephen W. Tsai
Professor, Dept. of Mechanical Engineering

Stephen W. Tsai graduated from Yale with BS and DEng. He was with the US Air Force Materials Laboratory for 21 years, and Stanford since 1990. His interest is in the mechanics of composites, and has been training design engineers for more than 45 years. His book on Theory of Composites Design, and Strength & Life of Composites are standard references; and his Tsai-Wu failure criterion is also one of the frequently referenced. He is a member of the US Academy of Engineering.

Leigh Hudson
Marketing & Sales Manager

Leigh Hudson, Director of Product and Market Strategy for Fibersim, has been with the Specialized Engineering Software Business Segment (formerly Vistagy, Inc.) of Siemens PLM Software for over 6 years. Prior to his current position he served as the Technical Services Manager in Asia Pacific developing the technical sales, services and distribution channels for the region. His career in engineering began as a CAD administrator and designer at Harley-Davidson Motor Company before becoming the Engineering Manager at Lubriquip, formerly a division of IDEX. Mr. Hudson earned a Bachelor of Science degree in mechanical engineering from the University of Wisconsin Milwaukee.

Dr Andrē Haufe
Methods/Process Head of Department

Dr. Andrē Haufe studied engineering with emphasis in structural mechanics, mechanics of materials as well as statics and dynamics at the Universities of Stuttgart (Ger-many) and Calgary (Canada). He received his Ph.D. in 2001 from the University of Stuttgart (Institute of Structural Me-chanics) and spent his post-doctorate as scholar of the German Academic Exchange Service (DAAD) at the University of Calgary. In 2002 he joined DYNAmore GmbH and was responsible henceforth for constitutive models, ALE, airbags and modeling of connection techniques. Since 2006 he manages the process simulation group within DYNAmore. Furthermore Dr. Haufe is lecturing the course "Theory and Application of explicit Finite Elements" at the Institute of Statics and Dynamics (ISD) within the faculty of Aerospace Engineering and Geodesy of the University of Stuttgart.

Robert Paul
Head of R&D

Robert graduated from the University of Manchester with an Engineering Doctorate in December 2012 where he investigated novel methods of manufacture for composite gas cylinders, a project sponsored by Luxfer Gas Cylinders. He joined FORMAX in August 2012 to work on a collaborative project between FORMAX and ESI. Prior to joining FORMAX, Robert worked as a consultant at GE Aviation examining the causes of processing defects in composite propeller blades.

Dr João Velosa
Materials Engineer

João Velosa, research assistant of the Center of Planning, Environment and Construction, Department of Civil Engineering, University of Minho, degree in Polymer Engineering and MS in Materials Processing and Characterization. Has 9 publications in international journals with peer review, 21 publications in proceedings of scientific meetings, 11 oral presentations at international conferences.

Alan Nettles
Composite Materials Engineer

Since 1987, Allan T. Nettles has been working on damage tolerance of composites, sandwich structures for the launch of vehicle applications at NASA-Marshall Space Flight Center USA. From 1987 to 1996, Alan Nettles was a Virginia Tech composite materials engineer, in the Materials and Processes Laboratory at NASA-Marshall Space Flight Center USA. He has a BS (Physics), from Furman University ; a MS (Textile Engineering – 1985) from the Georgia Institute of Technology and a PhD (Materials Science engineering- 1988).

MULTIFUNCTIONAL MATERIALS CONFERENCE

An additional asset for the composite industry

Key focus

- Various technologies and applications

CHAIRMAN

Institut für Verbundwerkstoffe

Prof. Ulf Breuer

Electrically conductive composites for automotive and aircraft industries

INSTITUT FÜR VERBUNDWERKSTOFFE GMBH

Klaus Hildebrandt
R&D Engineer

- Development of electrically conductive organic sheets
- Simulation of the surface quality of organic sheets during the thermoforming process

Friction and wear of pps7cnt nanocomposites with formation of electrically isolating transfer films

INSTITUT FÜR VERBUNDWERKSTOFFE GMBH

Ron Sebastian
Materials Engineer

- Transfer film developed within tribological runs on the counterbody
- Impact of different fillers of the respective polymer composition
- Impact of the topography and the thickness of the transfer films

Out of autoclave technology for multifunctional tubular composite structures

CIRCOMP

Dr Ralph Funk
Top Manager

- High loaded composite struts and tie-rods manufactured in filament winding process for aerospace application
- Structural composite fuselage section development with integrated composite ribs

Multiple extrusion of nanocomposites and their mechanical properties

INSTITUT FÜR VERBUNDWERKSTOFFE GMBH

Irene Hassinger
Materials Engineer

- Use of nanoparticles in thermoplastic polymers
- Twin screw extrusion
- Tensile and bending tests

Large carbon fiber composite parts in wind energy Drive train with cfrp torque shaft

SCHÄFERROLLS GMBH & CO KG

Carstan Sohl
Top Manager

- Innovative and lightweight carbon fiber torque shaft

On the role of carbon fibers in the design of polymeric composites for tribological applications

NANOPROFILE GMBH

Andreas Gebhard
Top Manager

- High end polymeric composites for tribological applications
- Anisotropy of the tribological properties of (carbon) fiber reinforced plastics

Speakers biography

CHAIRMAN

Institut für Verbundwerkstoffe

Prof. Ulf Breuer

Professor Breuer, born 21.5.1968 in Aachen, has studied mechanical engineering at the universities of Darmstadt, Manchester und Kaiserslautern, where he graduated 1993. After his military service at the German Airforce he worked as scientific assistant to Pof. Dr.-Ing. Manfred Neitzel at the Institute of Composite Materials in Kaiserslautern. After finalizing his dissertation on "Forming Technologies of Fabric Reinforced Themoplastic Composites" and receiving his doctorate degree from the University of Kaiserslautern in 1997, he accepted a position at the German Aerospace Center (DLR), where he worked on the development of advanced composite wing structures. In 1999 he joined Airbus and worked as a project leader of new high lift devices structure technology. In 2002 he accepted the position as head of composite technology Airbus Germany. From 2006 to 2010 he was leading the fuselage structure development at the Airbus headquarters in Toulouse. 2010 he responded a call of the Technical University of Kaiserslautern for a full professorship on composite technology as well as for the management of the Institute of Composite Materials.

Klaus Hildebrandt
R&D Engineer

Dipl.-Ing. Klaus Hildebrandt, born in 1984, studied materials science at the University of Bayreuth where he graduated in 2009. Since then he is working in the manufacturing science department at the Institute for Composite Materials GmbH. His focus is on thermoplastic composites.

Ron Sebastian
Materials Engineer

University: 2004 – 2010 Studies of Diploma Mechanical Engineering at TU Kaiserslautern, Germany. Since 01/2011 Member of research staff at Institute of Composite Materials, Kaiserslautern, Germany.

Dr Ralph Funk
Top Manager

Managing Director Dr. Ralph Funck (12.10.1965), engineer, after his mechanical engineering study at the technical university in Darmstadt he worked 5 years as scientific coworker at the Institut for Composite Materials in Kaiserslautern and attained a doctorate in the area of the thermoplastic filament winding technology. Dr. Funck published over 40 scientific papers in the area of the manufacturing of construction units from composite materials and works for 20 years intensively in the area of the composite materials. Since 2009 Dr. Funck is managing director of the company CirComp GmbH.

Irene Hassinger
Materials Engineer

University 2003 – 2008 Studies of Diploma Chemistry at Karlsruhe Institut of Technology, Germany. 02/06 – 04/06 Project work at Technical University of Karlsruhe, Germany and the research institut IceTec, Reykjavik, Iceland. 2007 - 2008 Diploma thesis at Intitut of Chemical Technology and Polymer Chemistry, KIT, Germany and Max-Planck-Institute of Polymer Research, Mainz, Germany. Occupation Since 09/2008 Member of research staff at Institute of Composite Materials, Kaiserslautern, Germany.

Carstan Sohl
Top Manager

Born in Denmark 1958, 30 years experience with advanced composites. Several innovations and patents in a widespread field of industries: Marine, Aerospace, Wind Turbines, Paper Manufacturing.

Andreas Gebhard
Top Manager

After finishing his studies of physical chemistry, Andreas Gebhard switched to a position in the tribology group of Prof. Klaus Friedrich at the Institute for Composite Materials in Kaiserslautern, Germany. After three years of experience there he accepted a position as Head of Research and Development at the newly founded NanoProfile GmbH, which provides tribological contract measurement services and builds standard compliant and custom tribometers. Despite being appointed Managing Director of the company in 2010 he still is an active tribologist until today.

NON DESTRUCTIVE TESTING CONFERENCE

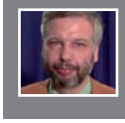
Increasingly numerous and performant techniques

Key focus

- **Benefits of NDT techniques: ultrasounds, infrared, acoustic, mechanochromic, terahertz pulsed sensing**

CHAIRMAN

CETIM



Henri Walaszek
NDE Technical and Innovation Manager

Benefit of non destructive acoustic imaging and structural health monitoring for quality of composites

CETIM

Henri Walaszek
NDE Technical and Innovation Manager

Nicolas Terrien
Composite NDT Application Manager

- Assessment of the quality of composite components
- New type of transducers, and though new simulation and data processing softwares.
- Reduction of the inspection cost

Novel mechanochromic probe for ndi of aerospace polymer composite matrices

UNIVERSITY OF WASHINGTON

Natalie Larson
Senior Undergraduate

- Novel mechanochromic probe for NDI of aerospace polymer composite matrices
- Effect of the polymer modulus on the activity of the fluorescent probe molecule

Terahertz pulsed sensing: a new tool for the contactless control of composites

LCP UNIVERSITÉ PARIS-SUD

Uli Schmidhammer
R&D Head of Department

- New possibilities for composite testing with pulsed THz radiation
- 3D control of dielectric volume with single sided measurement
- Single shot THz imaging for rapid testing in industrial surrounding

Non-destructive testing techniques for composites and coatings

AGILENT TECHNOLOGIES UK LTD

Pik Tang
Applications Scientist

- Development and usage of a new class of portable on-site non destructive technique – based on infrared detection
- Practical examples in aerospace, automative and wind power turbine

Continuous inspection of web-line production using non-contact ultrasound

THE ULTRAN GROUP

Anuj Bhardwaj
President and CEO

- Opportunities to reduce manufacturing cost, reduce and identify waste, while improving production efficiency
- Application to continuous web-line production of composite materials

Ultrasonic testing, characterization, and online monitoring of fatigue processes of carbon fibre reinforced plastics

SARREBRUK FRAUNHOFFER

Thomas Helfen
Materials Engineer

- Linear and non-linear ultrasonic testing methods

Damage & defects in composites materials: how to take them into account

CETIM

Thomas Jollivet
Materials Engineer

Henri Walaszek
NDE Technical and Innovation Manager

Nicolas Terrien
Composite NDT Application Manager

- Damage growing and the effect of defects
- Results from fractographic and NDT investigations
- Industrial application

Speakers biography

CHAIRMAN

CETIM

Henri Walaszek
NDE Technical and
Innovation Manager

Henri Walaszek is currently referent expert in NDT in CETIM. After having studied physics and ultrasonics, he worked in resarch department of NDT in a petrolum service company. After, he worked several years in companies manufacturing NDT equipment. H. Walaszek works in CETIM since 20 years where he developped research and applicative projects of NDT on metals and composites. Currently, H. Walaszek is involved as expert in all traditional and advanced mathods of NDT, as ultrasonics, thermal infrared, guided waves by example.

Nicolas Terrien
Composite NDT Application Manager

Nicolas Terrien, formerly student in "ecole normale supérieure de Cachan, obtained his PHD in physical acoustics in 2006. Then, he worked as project manager in ONERA (France), in non destructive testing of aircraft composite structures, noticeabily with in-structure integrated transducers. He joined CETIM four years ago, where he is in charge of R/D projects about non cestructive testing of composite structures.

Natalie Larson
Senior Undergraduate

Natalie Larson is a senior undergraduate at the University of Washington in Seattle, WA, USA. She has been working with fiber reinforced polymers since the summer before her freshman year college, including working in the Automobili Lamborghini Advanced Composite Structures Lab and the Flinn Lab in the Materials Science and Engineering Department. She has also had two Boeing internships working on advanced carbon-fiber composite structural materials. Currently, she is conducting research on mechanochromic fluorescent probes for use in non-destructive inspection of aerospace composites.

Uli Schmidhammer
R&D Head of Department

Formerly diploma and PhD student at the faculty of physics of the Ludwig-Maximilians Universität, Munich, he joined the LCP of the Université Paris Sud in 2006. Here, as leader of an EUROFEL project, he became interested to the THz-technology. He has more than ten years' experience in the development and application of optical instrumentation including free lancing for Horiba Jobin Yvon GmbH. He is in charge of probing methods for ultrafast spectroscopy and the recently opened single shot THz platform of the LCP.

Pik Tang
Applications Scientist

I gained my Ph.D from the University of Strathclyde in Glasgow in 2008 on material science characterization using a variety of analytical techniques. After a series of post-doc positions, I started as an application scientist in 2009 for A2 techniologies later acquired by Agilent Technologies. I am in charge of application development for mobile non destructive technique for a variety of samples, including composites.

Anuj Bhardwaj
President and CEO

Anuj Bhardwaj is President and CEO of The Ultran Group, a leading manufacturer of ultrasonic equipment and products. He has previous experience in strategy consulting at the Cambridge Strategic Management Group and project management at the 3M Optical Systems Division. His manufacturing experience includes quality control and enhancement for microprocessors, implementation of a novel optical inspection process for advanced light control film, optimization of microreplicated prismatic film for LCD brightness enhancement, and development of precision coated films for OLED display manufacturing. Mr. Bhardwaj holds a Bachelor of Science in Mechanical Engineering from The Pennsylvania State University, a Master of Science in Mechanical Engineering from The Massachusetts Institute of Technology, and an MBA from the MIT Sloan School of Management where he was a graduate fellow in the Leaders for Global Operations program.

Thomas Jollivet
Materials Engineer

Thomas Jollivet is engineer at the Centre Technique des Industries Mēcaniques (CETIM), in Nantes (France). Thomas is specialized in the field of failure analysis and expertise of parts and composite structures. Holds a Diploma of Technology Research with subject "Failures of mechanical structures in polymer", he carries on the business failure analysis in CETIM since 1998. He participated in the European GARTEUR fractographic study of fatigue of carbon epoxy composites for aerospace UD. Through its business expertise, he uses various means of Non Destructive Testing Methods (NDT) which are part of the research tools of the causes of failures. He is also a trainer Cetim on failure analysis and use of NDT in this context.

ROBOTIZATION CONFERENCE

Dedicated innovative solutions for composite manufacturing

Key focus

- Monitoring of composites manufacturing
- Post machining and repair
- On-line quality control

CHAIRMAN

BCT GmbH

Claus Bremer
Top Manager

Near-net-shape thermoforming textile handling for high performance composites

FASERINSTITUT BREMEN E.V.

Florian Jansen
R&D Engineer

- Automated process for near-net-shape handling of thermoplastic composites
- High-performance light-weight components for aerospace or automotive

Infrared heat, a fast and precise method for efficient composite production

HERAEUS NOBLELIGHT

Dr Lotta Gaab
R&D Engineer

- Use of Infrared light for fast FRP processing
- Process optimization with carefully considered infrared parameters
- Heating thermoplastic matrix composites with Infrared.

On-line quality control of composites production

SYNTHESITES INNOVATIVE TECHNOLOGIES

Dr Nikos Pantelelis
R&D Head of Department

- Reliable and real-time process quality monitoring of composites manufacturing
- Use of the absolute electrical properties of the resin to define the degree of cure
- Application to aircraft parts

Parallel kinematic 5 axis high performance cnc

TEKNODROM

Karl Erik Neumann
Independent Expert

- Combination of the accuracy and stiffness of a CNC machine with the flexibility and dynamics of an articulated robot arm
- Applications in the automotive, aerospace, defense, and heavy industry

Automated post-machining, re-working and repair of composite components using adaptive machining

BCT GMBH

Claus Bremer
Top Manager

- Geometrically adative post-machining of composite components
- Automated re-working and repair of composite components

Laser transmission weldinga fast and reliable joining technology for composites

LASER ZENTRUM HANNOVER E.V.

Verena Wippo
R&D Engineer

- Joining of thermoplastic composites by laser welding
- Joining of glass fiber reinforced thermoplastics with carbon fiber reinforced thermoplastics
- Possibilities for an online quality control

Speakers biography

CHAIRMAN

BCT GmbH

Claus Bremer
Top Manager

Dr. Claus Bremer specialized in his studies in the area of Mechani-cal Engineering, CAD, FEA and Computer Science. In 1986 he was the founder of BCT GmbH, located in Dortmund, Germany. Claus Bremer concentrates on the international business and co-operations as well as on applications for adaptive manufacturing and automated repair of turbine components, CFRP structural parts etc. Beside the commercial part of his business, he is involved in different national and international development projects.

Florian Jansen
R&D Engineer

10/2005 - 03/2012: Student of "Mechanical Engineering" at University of Bremen 05/2012 - today: Scientific employee at Faserinstitut Bremen e.V. (FIBRE)

Dr Lotta Gaab
R&D Engineer

Education: Study of material science 2000-2006 at Technical University of Darmstadt. PHD in Production Engineering at University of Bremen in 2010. Topic: temperature-dependent properties of carbon fiber reinforced carbon composites Professional Experience: Scientific associate at institute for ceramic materials and components at the University of Bremen from 2006-2010. Since 01/2011 R&D Project Manager at Heraeus Noblelight. Current Main Field of Activity: Infrared and Fiber reinforced Polymers, lifetime of infrared emitters, modelling of heat transfer.

Dr Nikos Pantelelis
R&D Head of Department

Dr Nikos Pantelelis is a Mechanical Engineer from the National Technical University of Athens, Greece from where he received his PhD at 1994. For more than 20 years he worked as a Research Engineer at the same University and recently moved to Synthesites to continue the R&D of process monitoring technolgy. He has been working in liquid composite moulding and on monitoring and process control of composite materials production since 2001. He has developed several control tools and systems as well as process simulation tools fully adapted to the high performance/ low cost production of thermoset and thermoplastic fibre-reinforced composite materials. Currently he is involved in numerous projects for the adaptation of the process monitoring technology in Aerospace, Wind Energy and Automotive applications.

Karl Erik Neumann
Independent Expert

Inventor of the Tricept and Exechon Parallel Kinematics Machines, Founder of Neos Robotics and Exechon. Receiver of the International Golden Robot Award in Tokyo 1999.

Verena Wippo
R&D Engineer

Verena Wippo works in the Composite Group at the Laser Zentrum Hannover e.V.. Her main field of activity is the laser transmission welding of reinforced thermoplastics. Mrs. Wippo has a diploma in Mechanical Engineering with the main focus on Machines, Systems and Automation in Production Engineering and Mechanisms and Robotics.

WIND ENERGY CONFERENCE

Innovative design and performant materials for for better blades

Key focus

- Innovative blade design
- Epoxy infusion system
- Simulation of process
- Laser-based and repair strategy
- Failure analysis

CHAIRMAN

Hanyang University

Dr Sung Kyu Ha
Professor

Innovative design of large-scale wind turbine blades

HANYANG UNIVERSITY

Dr Sung Kyu Ha
Professor

- New composite materials, new lay-up angles and new blade geometry
- Bend-twist coupling in performing aero-dynamical and structural analysis of blades

Novel epoxy infusion system for wind turbine blades

ADITYA BIRLA CHEMICALS

Pradip Kumar Dubey
CEO

- New generation infusion resin system
- Productivity improvement and defect reduction in wind blades manufacturing
- Epoxy matrix resin for longer wind blades

New generation of glass fibre reinforcement becomes the materials of choice for modern and cost effective blade designs

3B- THE FIBERGLASS COMPANY & COMPOSITE TECHNOLOGY CENTRE

Peter Joosse
Senior Designer

Luc Peters
Technical Product Manager

- Optimized glass composition
- Blade mass, estimated blade costs and reliability of fibre alignment

Advanced windmill blade mould design methodology based on the simulation of the infusion process

AIMPLAS TECHNOLOGICAL INSTITUTE OF PLASTICS

Enrique Diaz
R&D Head of Department

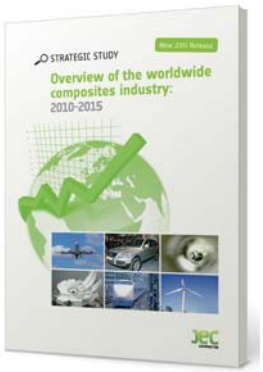
- Competitive approach for wind blade manufacturing simulation
- Simulation and control of the infusion process for wind blade manufacturing
- Determination of flexible permeabilty of reinforcements

Laser-based strategies for GFRP in wind energy blade repair

LASER ZENTRUM HANNOVER E.V.

Hagen Dittmar
R&D Engineer

- GFRP repair strategies performed with blades still mounted
- UV-lasers for the scarfing of damaged areas



OVERVIEW OF THE WORLDWIDE COMPOSITES INDUSTRY 2010-2015 – 2011 RELEASE

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Speakers biography

CHAIRMAN

Hanyang University

Dr Sung Kyu Ha
Professor

Dr. Sung Ha is a Professor of the Dept. of Mechanical Engineering at Hanyang University, Korea, directing the Hanyang Structures and Composites Laboratory (HSCL). He received his PhD in Dept. of Mech. Eng. in 1989 from Stanford University, USA. His current research areas include innovative designs and multi-scale based strength and fatigue life prediction of composite structures including wind turbine blades and aircraft wings. He is also serving as a visiting Professor at Stanford University and a major member of Stanford Composites Design Team.

Pradip Kumar Dubey
CEO

Mr. Pradip Kumar Dubey is the President of Aditya Birla Chemicals (Thailand) Limited (Epoxy Division). He is a graduate in Chemical Engineering and a post graduate in Polymer Technology. Mr.Dubey is an expert in the industry with professional experience of over 22 years and has headed multiple functions such as R&D, Application Development, Quality Assurance, Sales-Marketing and Business development. His dynamic and visionary leadership has enabled the company to achieve several milestones and accreditations. He is an active member of American chemical society, TRFA chapter of SIP and represents TRFA committee on composites and has contributed to the industry by developing and introducing novel products and authored various technical papers and also owns patents on novel epoxy products.

Peter Joosse
Senior Designer

Peter Joosse has been working in the field of composite structures since his graduation at Delft University of Technology (TU Delft) in 1982. Since then most of his activities concerned wind turbine rotor blades. His experience includes both materials research, structural design of blades and full-scale testing of blades and components. He is an invited lecturer in wind energy courses at TU Delft and is board member of SAMPE Benelux.

Luc Peters
Technical Product Manager

Holds an Industrial Engineer degree from Gramme Engineering Institute in Liège. Started at Owens Corning in 1984 and hold various position in the Science and Technology group. Joined Advanced Glass Fiber Yarns in 1998 as S-2 Glass Market manager for the Advanced Composites market in Europe. Was also SAMPE Benelux president for 3 years. Joined Porcher Industries in 2000 in France in the Technical sales team. In 2003, back to Owens Corning Composites in Belgium as Application development engineer in the Product and Marketing technical support group, mainly in charge of the technical support for the industrial markets. From 2005 till today: with Owens Corning and as of end of 2007 then 3B: Technical product manager for direct roving reinforcement focusing on the Wind Energy market.

Enrique Diaz
R&D Head of Department

Enrique Díaz Escriche. Ph. D. in Mechanical Engineering in the Universidad Politécnica de Valencia and Chemical Engineer Degree for the Universidad de Valencia. 10 years experience in research of composites. He has been mainly involved in development of transformation processes for composites: RTM, infusion, pultrusion, hot platen press, prepregs, etc... He has developed a specific approach for the simulation of the infusion process. He has worked in several R&D projects related to composites materials and processes. Nowadays he is the Head of the Composites Department at AIMPLAS. He has also developed industrial association activities and belongs to the Board of the European Composites Industry Association (EUCIA) representing the Spanish Composites Cluster (AESICOM).

Hagen Dittmar
R&D Engineer

Hagen Dittmar graduated at the Faculty of Mechanical Engineering of Leibniz University of Hannover, Germany. Now pursuing his doctorate at the Laser Zentrum Hannover e.V., he is researching into the laser processing of composites. His focus lies on ablation of fibre reinforced plastics as a preparing step for reparations in aeronautical and the wind energy industries.

Dr Soo-Hyun Kim
R&D Engineer

-B.S. 2001, Department of Aerospace Engineering, KAIST -M.S. 2003,Department of Aerospace Engineering, KAIST -Ph.D. 2008 Department of Aerospace Engineering, KAIST -Samsung Heavy Industries Co., Ltd.(2008.8.~2011.3.): Wind Turbine Division, Product Development Team(SI), Manager -Korea Institute of Energy Research(2011.4.~): Wind Energy Center, Senior Researcher

AUTOMOTIVE CONFERENCE

Mass Production: Well established solutions

Key focus

- Hybrid composite structure
- Simulation for efficient process
- Bonding solutions
- Short production cycle time
- High volume

CHAIRMAN

University of Warwick

Dr Darren Hughes
Senior Powertrain Analysis Engineer

Design of a hybrid composite structure for use in automobile

CHONBUK NATIONAL UNIVERSITY

Dr Seong Su Kim
Teacher & Academic

- Properties of the carbon fiber-reinforced composites
- Design and impact test of the hybrid composite strut tower

Drapping and filling simulation for an efficient process design of Non-Crimp-Fabric (NCF) composites parts

VOLKSWAGEN AG

Olaf Täger
R&D Department

- Draping and filling simulation tools
- Specific calibration allows draping and filling simulation

HP-RTM and Compression Moulding : Two complementary solutions for composites mass production in automotive

HUNTSMAN

Olivier De Verclos
Materials Engineer

- Resin systems suitable for both compression moulding and high pressure resin transfer moulding
- Further cycle time and investment reduction

Innovative solutions for automotive

CHOMARAT

Francisco De Oliveira
Automotive Manager

- Specific angles, and hybrid multi-fiber joining
- New thermoplastic impregnation processes

Bonding solutions for lightweight structures

ASHLAND PERFORMANCE MATERIALS

Carmen Michaelis
Marketing & Sales Manager

- Higher elongation adhesives in order to manage joint motion due to thermal mismatch
- Polyurethane and Epoxy adhesive solutions

Press moulded automotive panels suitable for higher volume production and high temperature paint-line finishing

GURIT

Dr Dan Jones
Research & Technology Manager

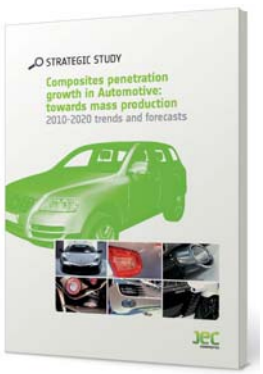
- Rapid cycle time making production runs up to 40,000/ year from a single tool set viable
- Opening up the market for light-weight, composite body panels in Automotive
- Simplified and reduced pressure moulding process reducing the investment needed to manufacture compression moulded materials

A route to composite use in high volume automotive structural applications

UNIVERSITY OF WARWICK

Dr Darren Hughes
Senior Powertrain Analysis Engineer

- Development of low-carbon alternatives to existing structural materials
- Complete manufacturing solution for composite-composite structures, composite-aluminium and composite-steel
- High-volume, cost-effective, structural parts



COMPOSITES PENETRATION GROWTH IN AUTOMOTIVE : TOWARDS MASS PRODUCTION 2010-2020 TRENDS AND FORECASTS

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Speakers biography

CHAIRMAN

University of Warwick

Dr Darren Hughes
Senior Powertrain Analysis Engineer

Dr. Darren Hughes is an Assistant Professor in Materials Performance at WMG in the University of Warwick. WMG is a partner in the recently launched UK High Value Manufacturing Catapult and activity is focussed on Low Carbon Mobility. He is currently engaged in multi-material projects together with industrial partners including Jaguar Land Rover and Tata Steel. Recently, he was part of an ERDF-funded project to exploit thermoplastic composites in automotive structures and specifically developed a route for joining them with minimal modification to existing manufacturing processes. He is a world-leading expert in the evaluation of materials by non-destructive techniques (NDT) and in particular has nearly 20 years of experience in characterisation using X-rays and neutrons. Dr Hughes currently supervises 7 PhD students, teaches on the university undergraduate programme and has a variety of on-going research projects including for example joining optimisation, lightweight structures and nano-composites. In addition to being a member of national and international panels, he has authored over 50 publications including 20 peer-reviewed outputs since 2008. Recently he developed a new method for non-destructive evaluation of internal stresses in polymers and polymer-matrix composites [D.J.Hughes et al. Materials Letters, 65, 3, 530-533 (2011)]. He was a member of the panel which delivered the international standard for the non-destructive evaluation of residual stress using neutrons (ISO/TS 21432:2005).

Dr Seong Su Kim
Teacher & Academic

Ph.D. 2007 Mechanical Engineering, KAIST, Korea Research Professor 2007-2009 KAIST (KIDCS) GCOE researcher 2009-2010 The University of Tokyo Assistant Professor 2010-present Chonbuk National University Exclusive experience in research especially for design and manufacturing of composite structures (Hybrid composite journal bearing, Reliable repairing process of underground buried pipes using resin transfer molding. Carbon composite bipolar plate and composite end plate for PEMFC).

Olaf Täger
R&D Department

Olaf Täger started out in 1990 with the study of physics at UT Clausthal, followed by a doctoral study in mechanical engineering at UT Dresden till 1998. He then worked as a research assistant at UT Dresden at the Institute of Lightweight Engineering and Polymer Technology. He then got the award of doctor's degree in mechanical engineering. He became the head of structural dynamics and acoustics at this same institute in 2003. Since 2007 he is the head of "Special materials and surface coatings", VW Group Research. Since Nov 2009 he is the head of „Polymers and composites", VW Group Research.

Olivier De Verclos
Materials Engineer

Olivier de Verclos is working as a Technical Support Team Leader for Huntsman Advanced Materials in the European Technology Center in Basel, Switzerland. He supports Composites and Tooling technologies in various markets including Aerospace, Automotive and Industrial. In 2002 Olivier de Verclos graduated in Material Science in Dijon, France. He spent his first 5 years at Huntsman in product developement and moved to a technical support role in 2009.

Francisco De Oliveira
Automotive Manager

Francisco De Oliveira is an engineer graduate in physics. He is in charge of automotive market for Chomarat Textiles Industries, France, including the plastic and composites activities. After a long experience at different functions dealing with engineering or quality for the automotive industry, he is now focusing in developing the Chomarat activity for interior trims and composites applications for structural components or body panels.

Carmen Michaelis
Marketing & Sales Manager

After graduating from Lübeck University with a degree as Diplom Engineer in Technical Chemistry, Carmen Michaelis joined Ashland Chemical in 1998 as technical service and lab engineer for pressure sensitive and structural adhesives. In 2002 she took on technical sales responsibilities for the UK, Benelux and Scandinavia. Today Carmen Michaelis is deeply involved in product management, marketing and product development, for the Pliogrip structural adhesives product line in Europe. She bears responsibility for the Northern European, including the German, automotive OEM/Tier 1 business.

Dr Dan Jones
Research & Technology Manager

Dan graduated from Nottingham University with a BEng in Mechanical Engineering and a PhD in the manufacture of filament wound composite pressure vessels. He started his composite career in structural design and then became more involved in design and processing for low cost manufacture. He joined Gurit in 1999 working on the development & customer support of SPRINT (out of Autoclave) prepreg materials and carbon fibre wind-turbine blade projects. Dan then became the Research & Technology manager in 2006 to focus on new materials and technologies to reduce the total cost of composite manufacture. He is currently working on light weight carbon fibre vehicle components.

AUTOMOTIVE CONFERENCE

Alternative solutions: Unlimited innovation

Key focus

- Bio-composites for automotive applications
- Thermoplastic composites
- Lightweight structure
- Electric-Car

CHAIRMAN

Faurecia

Arnaud Duval
Project Manager

Burning characteristics and fire resistance of bio-composites for application in automotive industries

UNIVERSIDAD DO MINHO

Andre Alves
Mechanical Engineer

- Characterization of biocomposite's fire resistance and burning characteristics
- Improvment of fire resistance thanks to various parameters

Semi-finished products of innovative green composite materials

PSA

Frédéric Rousseau
R&D Engineer

Arnaud Duval
Project Manager

- Targets of the Flaxpreg project
- Mechanical performances
- Cycle times and material costs in line with the constraints of automotive mass production.

Ecoshell: bio-composites for structural use in car application

ALTRAN IMP

Alain de Larminat
R&D Head of Department

- Finding the best material for such an application: natural fiber, resin, foam and glue
- Defining the optimum geometry and architecture of the body and the optimum shape of the different parts
- Redesigning the architecture of the vehicle in order to integrate in the best way such an innovative structure

Multi-material assembly in automotive

CETIM

Pierre Chalandon
Methods/Process Head of Department

Henri Walaszek
NDE Technical and Innovation Manager

- Lightweight in automotive
- Metal-composite assembly
- Results of collaborative projects

Thermoplastic composites for automotive seats

FAURECIA

Thierry Renault
R&D Engineer

- Weight reduction
- Styling freedom
- Collaborative project LYCOS

Design and manufacturing of a composite self supporting structure, using fiber glass and RTM process

ECM

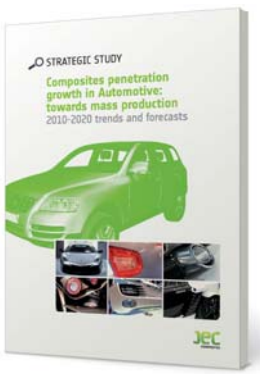
Charles Herval
Innovative Project Direction

Advanced thermoset technology for high volume automotive production

MOMENTIVE SPECIALTY CHEMICALS

Roman Hillermeier
Transportation Technology Leader

- Epoxy matrix echnology for high volume liquid molding processes
- Non-toxic and VOC-free matrices



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Speakers biography

CHAIRMAN

Faurecia

Arnaud Duval
Project Manager

Arnaud Duval obtained his mechanical engineering degree in the french Grande Ecole « l' Ecole Nationale Supêrieure des Arts et Mêtiers » in Angers / Paris, then pursued with one year specialisation in acoustics (research master) by graduating « le DEA d'Acoustique Appliquêe » of the « Universitê du Maine » in Le Mans, France. He began his career in 1998 as an acoustic research engineer at Sommer Allibert's R&D Center in France, in charge of acoustic material innovation and porous media simulation. He took over the responsibility of the french acoustic department of Faurecia in 2002 and became in 2004 the Acoustic Manager of the Faurecia's « Acoustics and Soft Trim Division » based in the Center of Acoustic Technology in Germany. In 2005, he was nominated official "Expert" in the field of acoustics for the Faurecia Group. Since 2008, he is in charge of the Acoustics and Innovation department for the Faurecia AST Product Line for all european and japanese carmakers and is based in the Acoustic TechCenter in Mouzon, France. In 2012, he has been nominated official "Senior Expert" in the field of acoustics for the Faurecia Group.

Andre Alves
Civil Engineer

Master in Mechanical Engineer Researcher in FMRG Group of University of Minho

Alain de Larminat
R&D Head of Department

Alain de Larminat is the scientific manager of the mobility projects (ALTRAN). After obtaining a University degree of technology in Mechanical engineering and industrial automation, Alain de Larminat worked in an engineering consulting firm specialized in the study of plastic parts. His expertise in the field of the engineering of technical and aesthetic plastic parts, bring him to take the responsibility of a mechanical design office of 20 people. Today he is the manager of the mobility project for Altran, he is in charge of 5 innovative projects dealing with mobility.

Pierre Chalandon
Methods/Process Head of Department

Pierre Chalandon attended the Ales School of Mines in 1999 followed by a Master at the Paris School of Mines in Material and Process. His professional experience started as an expert in tribology, followed by being the head of materials and Processes for mechanical assembly, especially bolted; adhesive assembly for mechanical parts and tribology and lubricants. He then became the head of materials and processes for: chassis development welding, corrosion resistance and electronic (mechanical parts). In 2011 he was the manager of two projects: new materials and processes technical and strategic plan and the future global profitable and reliable PSA Plants. He spent 11 years at PSA. Finally, in 2012 he joined the CETIM as Assembly Department Manager and works on All the technologies: mechanical, chemical, thermal and hybrid assemblies as well as the Management of the Product Life Cycle from the Conception to the Industrialization.

Henri Walaszek
NDE Technical and Innovation Manager

Henri Walaszek is currently referent expert in NDT in CETIM. After having studied physics and ultrasonics, he worked in resarch department of NDT in a petrolum service company. After, he worked several years in companies manufacturing NDT equipment. H. Walaszek works in CETIM since 20 years where he developped research and applicative projects of NDT on metals and composites. Currently, H. Walaszek is involved as expert in all traditional and advanced mathods of NDT, as ultrasonics, thermal infrared, guided waves by example.

Thierry Renault
R&D Engineer

Education: Engineering degree from ENSIC Nancy (France) and Ph.D. in Chemical Engineering at Clemson University (USA) 15 year experience in thermoplastic composites in car industry At Faurecia Automotive Seating since 2007 Senior Expert in Composites and Faurecia Group Referent for composites Current position: Manager of Expertise network and R&D Partnerships.

Roman Hillermeier
R&D Head of Department

Roman Hillermeier is the Transportation Technology Manager at Momentive Specialty Chemicals, based at the Transportation Research and Application Center in Duisburg, Germany. Before joining Momentive Roman worked in various leadership roles in the wind and aerospace composites industry, both in Europe and US. He earned his Ph.D. in Chemical Engineering/Composites in 2000 at the University of Washington.

AERONAUTICS CONFERENCE

The new challenges of aircraft design

Key focus

- Design optimization
- Structural manufacturing solutions
- RTM process and tools

CHAIRMAN

AIRBUS

Paulo Teixeira-Lage
Independent Expert

Composite design challenges

AIRBUS

Paulo Teixeira-Lage
Independent Expert

- Design of a complex one piece 33m long composite wing skin
- Design accuracy, weight optimization and component integration

Multidisciplinary design optimization of a composite amphibious aircraft fuselage

PERUN TM EOOD

Plamen Roglev
Designer

- Optimization of aerodynamic, hydrodynamic and structural properties for a flying boat fuselageHull design of a light recreational seaplane

How C-Ply™can change the way we design and manufacture

CHOMARAT

Michel Cognet
Group Managing Director

- New concept relying on three building blocks: shallow angle, thin plies and anisotropy
- Automated tape laying

Engine components : use of simulation to support RTM process strategies

SAFRAN COMPOSITES

Pierre-Emmanuel Cros
R&D Engineer

- RTM tools and the choice of a reinforcement pattern
- Influence of parameters like fiber volume, permeability of preform and the assessment of virtual race-trackings

RTM process analysis and simulation of turbofan components

CCHP

Edu Rhuiz
Ph.D.

- New composite fan blade for aircraft engines
- Improvement of the impact capabilities of the blades
- Experimental and numerical studies on the component in order to improve its processing

Composite aircraft assembly and integration

AIRBUS OPERATIONS LTD.

Christopher Horler
R&D Engineer

- Developments in assembly methods
- Increased use of composites and harmonisation
- Development of various PLM tool sets

Advanced structural solutions of joints for high-loaded aircraft composite structures

NATIONAL AEROSPACE UNIVERSITY «KHAI»

Dr Maryna Shevtsova
R&D Head of Department

- Creation advanced structural solutions of joints for high-loaded composite structures
- Structural manufacturing solutions of joining composite with metal fittings

Speakers biography

CHAIRMAN

AIRBUS

Paulo Teixeira-Lage
Independent Expert

Since post-graduating from Cranfield University in the UK, developed considerable industrial expertise in implementing efficient processes, enabled by the use of advanced software tool-sets and appropriate methodologies, to design, manufacture and assemble aero-structures at Airbus. Considerable experience on structures and systems installation design capability on the A380, A400M, A32X Sharklet/NEO and A350XWB, to ensure the deployment of harmonized processes, methods and design tools. Member of the EADS college of experts in Airbus Airframe Engineering - Composite Technologies, which aims to develop lean processes and design techniques, which reduce both aircraft assembly cycle time and certification costs. During several years of professional experience, contributed to the delivery of industrial solutions in composites, ranging from elastomers to polymers, co-extruded and injection moulded, GFRP and CFRP structural components, with thermo-set and thermoplastic matrices.

Plamen Roglev
Designer

Born 1965 in Plovdiv, Bulgaria MSc. in mechanical engineering TU Sofia 1991 MSc. in aircraft engineering TU Sofia 2012. Plamen Roglev started out at the School for Reserve Army Officers in Pleven, Bulgaria in 1984-1985, and then got his Diploma in Mechanical Engineering. After that, he attended a CE course in Fiberglass Boatbuilding Materials & Methods in 2008, as well as the Westlawn Institute of Marine Technology - Mystic, CT, USA. He got his MSc. in Aeronautical Engineering during 2009 – 2012. He was a Doctoral Student in Aircraft Design – from 2012 .and fina Plamen Roglev first worked at ACT OOD- Plovdiv, Bulgaria - computer communications sales in 1991 – 1992, then at EOL Technica OOD – Plovdiv, Bulgaria from October 1992 as a designer and director and finally is now at Perun TM EOOD in Kostievo, Plovdiv district, Bulgaria – from April 2000 till now – Design Directo.

Michel Cognet
Group Managing Director

Michel Cognet has 30 years experience in the composites industry. First holding different positions in the Hexcel group from 1983 to 2008 : VP Reinforcements for Composites and later VP Planning and Strategy. He joined Chomarat in 2008 as Chomarat Composites Managing Director and is now Chomarat Group Managing Director. Driven by its core values of creativity and innovation since 1898, Chomarat is an international textile group. Operating globally on 4 continents, the company is composed of three strategic business units : Composites, Textiles and Fashion. An independent family business, Chomarat incorporates over 25 different process and manufacturing technologies. This diversified approach positions it as a privileged partner for projects and international developments. Historically, Chomarat has had a strong automotive focus holding strategic positions regarding car interior textiles for seats and headrest and developing TPO solutions for dashboards and door panels. Chomarat is also well known in the composites industry with innovative reinforcements such as Rovicore & Roviflow which have allowed the composite industry to move from open mold to close mold processes using RTM & Light RTM technologies. Chomarat is now heavily investing in carbon technologies and developing new ranges of carbon reinforcement for the RTM/VaRTM/ Infusion processes. Chomarat has also made its name in thermoplastics by using different matrices.

Pierre-Emmanuel Cros
R&D Engineer

Pierre-Emmanuel Cros graduated from the University of Strasbourg (PhD thesis) in 2000 at the Institut Charles Sadron (F-Strasbourg) in mechanics of polymers at high strain rates. He had a first experience as a R&D engineer at ESI France in different topics : process simulation (hot stamping), crash analysis and coupling phenomena (stamping/crash). He joined Safran Composites (a SAFRAN research center dedicated to the development of polymer-based composites materials technologies) in 2010 for the deployment of numerical tools to support the development of RTM parts.

Christopher Horler
R&D Engineer

Studied at University of Manchester / UMIST, gained BEng(Hons) in Aerospace Engineering. Now with over 10 years practical experience in a variety of Specific Design and Design Process Support roles.e.g. The projects he has worked on include the A380 Programme – Wing Design & Integration activities, CATIA V5 Prototyping – DMU Integration and Assembly Drawings and A400M Business Processes and Methods – common tool-sets and methods for Assembly. His current responsibilities are the following : Support of Design Process, Methods & Tools for all programs, Focal Point for Assembly Design Process and Tools, Future Process & Tool requirement authoring / debate.

Dr Maryna Shevtsova
R&D Head of Department

1991- graduated Kharkov aviation institute,1991-1994-postgraduate studies,1996 - Ph.D thesis defend, 1995-2000 - Senior lecture, 1995-1996 - Chief Specialist on the composite, Ost-West Consulting, Herson, Ukraine; from 2000 to the present - Vice-head of department Aviation Materials, Associate professor.

CARBON CONFERENCE

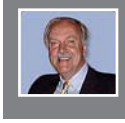
The entire process chain : market, design, manufacturing, recycling

Key focus

- Challenges of the carbon fibre market
- Manufacturing cost reduction
- Design
- Recycling
- Environmental impact

CHAIRMAN

Connectra



Andrew Mafeld
Managing Director

Global overview of the carbon fiber industry

CONNECTRA

Andrew Mafeld
Managing Director

- Major challenges for potential applications

Recent developments of carbon fibers in south korea

KITECH

Dr Kim Young
R&D Engineer

- R&D project for the development of carbon fibers in South Korea
- Physical and mechanical properties of Hyosung carbon fibers
- Demonstration of Hyosung carbon fibers in civil applications

Processing advancements within reach for achieving significant reductions in carbon fiber cost of manufacturing

HARPER INTERNATIONAL

Robert Blackmon
Vice President

- Combinative approach to achieve reduction in manufacturing costs needed to drive rapid adoption
- Online availability through automation and improvements in process control technology

High speed cutting of carbon fibre reinforced plastics

LASER ZENTRUM HANNOVER E.V

Sven Bluemel
R&D Engineer

- Associated challenges of laser cutting of CFRP
- Flexible, automatable and fast material processing techniques

Recycling of carbon composite materials

LABORATOIRE I2M

Olivier Mantaux
Teacher & Academic

- Which recoverability for the recycled fibers ?
- Importance of the reshaping of the recycled fibers
- Development of new applications

Carbon fiber can have serious environmental ramifications

ANGUIL ENVIRONMENTAL SYSTEMS, INC.

Rich Grzanka
Top Manager

- Controlling the tar residue and silicone generated by manufacturing
- Thermal oxydation technologies via high temperature combustion

Speakers biography

CHAIRMAN

Chomarat

Andrew Mafeld
Managing Director

Andrew Mafeld has over thirty years of experience in global composites markets covering the carbon, glass and natural fibre sectors. He is the founder and managing director of the Connectra group of companies, a southern Sweden based international business development consultancy working in the area of materials, with a strong focus on composites. Connectra specialises in supporting company development with services such as market studies, strategic planning, strategy implementation, business planning and commercial due-diligence. Prior to founding Connectra in 1998, Andrew held a variety of senior management positions in both the commercial and technical areas at Owens-Corning, in Europe and the USA. He has also held market research and sales positions with Monsanto Europe and worked with Procter & Gamble as a process development engineer across their European plants. Andrew has a Chemical Engineering degree from Imperial College, London, an MBA from INSEAD, France and speaks multiple languages. He has authored numerous reports for clients worldwide, including companies, government ministries, and regional development agencies, on various aspects of the composites industry. He has written a book on "The Automation of Polymer Composites Manufacturing" published by JEC in 2010.

Dr Kim Young
R&D Engineer

Principal researcher Department of Textile Convergence of Biotechnology and Nanotechnology Korea Institute of Industrial Technology. Since 2007, project manager for "Reliability Evaluation of Carbon Fiber Reinforced Composites for Civil Applications Since 2005. Principal researcher in KITECH 2003-2005. Post-doctor in University of Sydney, Australia 2003, PhD in mechanical engineering from University of Sydney, Australia 1989-1996 Hanyang University, South Korea, studies in Textile Engineering.

Robert Blackmon
Vice President

Robert Blackmon is the Vice President of Integrated Systems for Harper International, world leader in thermal processing systems for advanced materials. Mr. Blackmon is responsible for sales, design, engineering, project execution, installation and commissioning of complete processing plants around the globe for Carbon Fiber production. Robert holds a degree in Chemical Engineering from Northwestern University.

Sven Bluemel
R&D Engineer

Sven Bluemel graduated at the Faculty of Mechanical Engineering of Leibniz University of Hannover, Germany. He is researching at the Laser Zentrum Hannover e.V. in the fields of laser processing of composites. The main focus lies on cutting of fibre reinforced plastics as a basic step in the production of parts.

Olivier Mantaux
Teacher & Academic

Olivier Mantaux is an academic researcher, he has developed the project RECCO (2009-2012) with Airbus, Safran, Astrium ST and ICMCB lab in order to develop a recycling process for carbon composite materials based upon supercritical water solvolysis. This project is about to become a real industrial sector with the new program called FENICS, supported by Airbus. Olivier Mantaux presented the RECCO program during the GO Carbon Conferences, Valencia Spain in 2010.

Rich Grzanka
Top Manager

Rich holds a Bachelor of Science Degree in Mechanical Engineering and a Masters of Business Administration. He has authored numerous technical articles and white papers for magazines such as Air & Waste Management, Panel World, Paper Age, Ethanol Producer, Chemical Equipment and Electric Power Research Institute. In addition, Mr. Grzanka has served as a member of several industry associations and presented numerous times on various air pollution control topics. His current responsibilities include sales and distribution of the company's products in the Eastern United States and Europe while managing the company's efforts in several target markets such as carbon fibre.

BIOCOMPOSITES CONFERENCE

Bio based materials and solutions ready to be used

Key focus

- Biobased composites
- Life cycle analysis
- Flax and Hemp, Natural fibres
- Natural fibres
- Nautical and transportation applications

CHAIRMAN

CELC KU Leuven

Ignaas Verpoest
Teacher & Academic

Life cycle analysis of biobased composites

AGROCOMPOSITES ENTREPRISES

Maëva Coureux
Project Manager

- Evaluation of the impact of miscanthus in compounds on several indicators
- Comparison of several compounds with LCA

Efficient use of flax and hemp fibres in composite manufacturing processes

CELC KU LEUVEN

Ignaas Verpoest
Teacher & Academic

Joris Baets
R&D Engineer

- Processing, properties and applications of flax and hemp fibre composites
- Better understanding of the fibre extraction process

Development of regenerated cellulose reinforcement fabrics and their use in structural composites

UNIVERSITY OF BORÅS

Mikael Skrifvars
Teacher & Academic

- Woven and non-woven reinforcements
- Textile manufacturing and application testing

Bio composites from aligned natural fibres and polymers

AIMPLAS TECHNOLOGICAL INSTITUTE OF PLASTICS

Sergio Fita Bravo
R&D Engineer

- Raw Materials: Thermoplastic, Thermosetting Resins and Natural Fibres for the production of Bio-Composites
- Processing methods useful for Bio-Composites manufacturing
- Mechanical properties and factors that influence on Bio-Composites performance

Fatigue characterisation of natural fibre composites: Small wind turbine case study

UNIVERSITY OF NOTTINGHAM

Darshil Shah

Peter Schubel

- Improving yarn tenacity
- PFC manufacturing

New lightweight solutions for transportation interiors using cork

AMORIM CORK COMPOSITES

Marco Veras
R&D Engineer

- Floor systems and interior panels
- Solution for railway and bus interiors using cork

Biobased composite for nautical applications

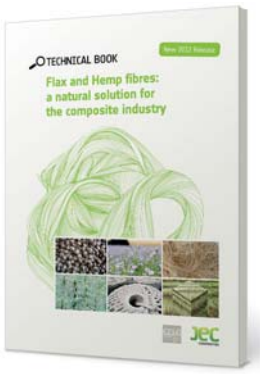
KAIROS

Emmanuel Poisson
Project Manager

IFREMER

Peter Davies

- Nautical construction
- Environmental gains of biocomposites



FLAX AND HEMP FIBRES:
A NATURAL SOLUTION FOR THE COMPOSITE INDUSTRY

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Speakers biography

CHAIRMAN

CELC KU Leuven

Ignaas Verpoest
Teacher & Academic

Head of the Composite Materials Group in the Department MTM. Research interests are in areas of textile based composites, biocomposites, fibre-matrix interfaces and mechanical performance of composites. Is the author of more than 200 journal papers and about 300 conference papers. He holds 12 patents on the use of advanced textiles in composites, on sandwich structures, foams and bio-based composites. Has received several awards, most recently, the JEC-Award for Innovation (2003), the European Union's Descartes Prize for Science Communication of the European Commission (2004), the Francqui-Chair at the Universitê Catholique de Louvain (2008), "International Fellow" of the Society for the Advancement of Materials Processing and Engineering (SAMPE, 2009) and "Fellow and Life-long member" of the International Committee on Composite Materials (ICCM, 2009). He is also president of the European scientific committee off CELC.

Maëva Coureux
Project Manager

Maeva Coureux started with a faculty course on Science of the Living, chemistry, biology, biochemistry and biomedical physics. She then continued with the Masters program in engineering with a major in eco-conception. She is a project manager in eco-conception and life cycle analysis at Agrocomposites Entreprises, where she creates communications supports and steps in during conferences on eco-conception.

Joris Baets
R&D Engineer

Joris Baets is coordinating the natural fibre for composites research for CELC, the European Council for Flax and Hemp, and is preforming research in the field of structural and natural fibre composites in the CMG since 2004.

Mikael Skrifvars
Teacher & Academic

Professor in Polymer technology at University of Borås, Sweden, since 2003 Group manager at SICOMP, Sweden 1999 to 2003 Project manager and researcher at Neste Chemicals, Finland, 1986 to 1999.

Sergio Fita Bravo
R&D Engineer

Degree in Chemical Sciences (specialization in Organical and Analytical Chemistry) by the University of Valencia (Spain) in 2003. Working in AIMPLAS since 2005, first three months in the physical and mechanical laboratory and the rest in the composites department and composites researcher. He has worked in many plastic research projects at different levels: European, National and regional ones. He has a very broad experience in thermoset and thermoplastic polymers and their processing. Nanocomposites, natural fibres, biopolymers, blends and flame retardants, and alternative techniques for the curing of composites, are the topics that he has been working in the last years.

Marco Veras
R&D Engineer

Marco Veras has a degree in mechanical engineering (IST, Portugal). Since some years he's working as project manager and R&D engineer at Amorim Cork Composites in the development of lighweight systems for transportation interior applications.

Emmanuel Poisson
Project Manager

Peter Davies

Peter Davies is a research engineer in the Materials and Structures group at IFREMER, the French Ocean Research Institute.

SUSTAINABILITY CONFERENCE

Solutions for today!

Key focus

- Clean resins
- Environmental impact
- Sustainable production
- Sports
- Building and electric bike applications

CHAIRMAN

KTM Technologies

Florian Huber
R&D Head of Department

Cobalt free: time to accelerate!

DSM Composite Resins

Willemn Posthumus
R&D Engineer

- Solutions for pre-accelerating resins
- Benefits for workers' health & safety and for the environment
- Interesting improvements in processing robustness and final part properties

Reduce styrene's environmental impact

CCP Composites

Thierry Foussard
R&D Head of Department

- Composite resins to meet VOC regulations in part processing
- Low odor requirements in automotive industry
- Cure in Place Pipe

Thermosets for sustainable production of automotive composite components

Momentive Specialty Chemicals

Roman Hillermeier
Transportation Technology Leader

- Epoxy matrix echnology for high volume liquid molding processes
- Non-toxic and VOC-free matrices

Green surfing

Notox

Pierre Pomiers
CEO R&D Head Manager

- Health, environnemental and performance issues in the field of board sports
- 100% recycled materials

New european thermal insulation regulation impact current building façade panels

Owens-Corning

Eric Dallies
Science & Technology Leader

- Cofahē panel solution as a result of a strong group of partner project, analysis and plan.
- Focus on the composite profile, its value and key benefits

Holistic development of an electric light-weight stuntbike

KTM Technologies

Florian Huber
R&D Head of Department

- From the idea to a working prototype
- How an ambitious project can be solved by using a new way of development method

Presentation of the CAYLEY project

Lineo/Invent

François Vanfleteren
Managing Director

Maik Wonneberger
Project Manager

- Novel, environmentally friendly, aircraft interiors
- Industrialization of the manufacturing process and technologies

Speakers biography

CHAIRMAN

KTM Technologies

Florian Huber
R&D Head of Department

Study: 2000 - 2003 Studies in mechanical engineering at the Technical University of Munich with a focus on lightweight construction and product development 2003 - 2004 Diploma thesis: "CFRP fuselage structure of a human powered boat" Professional career 2004 - 2005 CarboTech in Salzburg, Engineer: construction of components, tools and jigs, work instructions, etc. by using Catia V5 CD3 and FiberSim 2005 - 2006 Internal Project Manager for Porsche RS Spyder (finance, customer service, etc.) 2006 - 2007 Head of Series Design: Leading a team of 7 engineers: projects for Aston Martin, Audi, BMW, Lamborghini, LEAR, Porsche, etc. 2007 - 2008 KTM Sportcar in Mattighofen, Project leader: Development of composite components for KTM X-Bow, project management and motorsport accessories Current occupation: 2008 - KTM Technologies in Salzburg, Head of development: managing a team of around 20 developers and engineers: projects for KTM and third parties (automotive, sporting goods and machine industry).

Willemn Posthumus
R&D Engineer

Willem Posthumus studied Chemistry at the Rijksuniversiteit Groningen and obtained his PhD at the Technical University of Eindhoven (2004). After working for various companies in 2011 he joined DSM Composite Resins as Senior Scientist.

Roman Hillermeier
R&D Head of Department

Roman Hillermeier is the Transportation Technology Manager at Momentive Specialty Chemicals, based at the Transportation Research and Application Center in Duisburg, Germany. Before joining Momentive Roman worked in various leadership roles in the wind and aerospace composites industry, both in Europe and US. He earned his Ph.D. in Chemical Engineering/Composites in 2000 at the University of Washington.

Pierre Pomiers
CEO R&D Head Manager

Pierre Pomiers obtained his engineering degree in IT and automatics at ESIEA, he then followed with a PhD in Robotics. In 2008 he became a robotics R&D manager. Finally, since 2009 he is the co-founder and CEA of NOTOX.

Eric Dallies
Science & Technology Leader

Eric Dallies' Academic qualifications and professional experience are the following : he has a PhD in surface chemistry and 20 years experience in the glass and composite industry. He spent 7 years working on fiber treatment and glass chemistry, 9 years on glass fiber product development for different applications in cement and thermoset matrices, 3 years in Marketing, as Global Product Manager for the Single End Roving range of products, 1 year as Business Leader Europe for High Performance Reinforcements. For the last year he is the S&T Leader for Applications Development and Material Characterization at Owens Corning - Composite Solution Business.

Florian Huber
R&D Head of Department

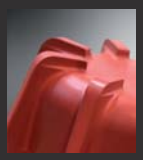
Florian Huber studied mechanical engineering at the Technical University of Munich with a focus on lightweight construction and product development. He made his diploma thesis on a CFRP fuselage structure of a human powered boat. In 2004 he started his professional career at CarboTech in Salzburg as Engineer, doing constructions of components, tools and jigs by using Catia V5 CD3 and FiberSim. After a year as internal Project Manager for a Porsche Le Mans project he became Head of Series Design, leading a team of 7 engineers and performing projects for various customers like Aston Martin, Audi, BMW, Lamborghini, LEAR and Porsche. In 2007 he joined KTM Sportcar in Mattighofen where he was project leader for the technical development of all composite components for the KTM X-Bow. Besides this he managed the first races in European GT4 class and the development of motorsport accessories. In late 2008 KTM Technologies in Salzburg was founded and Florian became Head of Research and Development there. Currently he is managing a team of around 20 developers and engineers doing projects for KTM and third parties (automotive, sporting goods and machine industry). His department is split in engineering, simulation and process development and specialized in the conception, engineering and prototype building of advanced composite structures or vehicles.

François Vanfleteren
Managing Director

Francois started to work in the family¨s company where he learnt how to work the flax fibre from the crop to the spinning mill. He created LINEO in 2006 and he is now developing new flax products for the composite market which is not accustomed to flax fibres. With LINEO, Francois has developed a flax/epoxy pre-preg which is now used by Decathlon to produce rackets, fishing rods, skis... LINEO has also developped a flax reinforced boat which crossed the Atlantic ocean. LINEO now works with Boeing, Eurocopter, Dassault for aeronautic applications."

Maik Wonneberger
Project Manager

Maik graduated university with a degree in process engineering in 1998. From the beginning on up to now his studies, ideas and works have always been focused on fibre reinforced plastics, in particular natural fibre reinforced bio-polymers. During the years 1996 - 1997 he gained his first experience at the German Aerospace Centre (DLR) and since 1998 he has been working at INVENT GmbH. Core business of INVENT is the development and series production of structural parts for application in aeronautics. Maik is engaged in the management of material- and process development projects and he is co-ordinating the CAYLEY project.



THERMOPLASTICS CONFERENCE

A keen interest for well adapted systems

GUIDED TOUR OF THERMOPLASCTICS EXPERTS

Key focus

- Overview on thermoplastic material technologies
- Manufacturing processes
- Lightweight design in automotive
- Structural aeronautic applications

CHAIRMAN

TU Munich

Klaus Drechsler
Head of the Institute
of Carbon Composites

University Stuttgart

Prof. Middendorf

10:30am Tour

2 hour tour with 8 slots through the show. Visiting of different booths related to thermoplastics. Speaker and attendees of the conference can propose their booth.

12:30 Introduction / Lunch

1:30pm Key Note Presentation

The World of Carbon Fiber Reinforced Thermoplastics – Status Quo

SGL Group

Andreas Erber

2:00pm

Structural Thermoplastic Composites from Reactive Resin Systems – New Fiber Sizing Developments for Optimized Properties

Johns Manville

Klaus F. Gleich
Research Associate

2:30pm

Insitu Polymerisation – possibilities beyond RTM

Engel Austria GmbH

Gerhard Entholzer
Leader project management

3:00pm

Commingled Yarns: Flexible Thermoplastic Prepregs

Concordia Fibers

Randal W. Spencer

3:30pm

To be announced

4:00pm

Latest technologies in robot based joining methods for thermoplastic materials - State-of-the-Art, recent developments, future perspective

Institut für Verbundwerkstoffe GmbH, Kaiserslautern

Martina Hümbert

4:30pm Panel

All speaker and selected attendees.
Moderation: Chairmen of the conference;
Prof. Middendorf & Prof. Drechsler

Speakers biography

Klaus F. Gleich
Research Associate

Dr. Klaus Gleich works at the Technical Center of Johns Manville, Littleton, CO. He has more than 20 years experience in advanced materials development and processing and is well known for his expertise in long fiber reinforced thermoplastics. Over the years, he held key positions in the material, process and application development as well as in production of composites parts. He was responsible at the Royal Dutch Shell Group (later Fibron Technology) for the development and production of LFT-materials and for the processing of these materials to automotive parts as well as for development of RTM and RIM-parts. Later he joint Kannegiesser-KMH as managing director. After moving to the US, Klaus Gleich was in charge for the Polymer Composite Group at Southern Research Institute. At Johns Manville, he is involved in application development with customers as well as in the development of new products. Dr. Klaus Gleich received his university degree in chemistry at the University of Konstanz and in economics at the Fernuniversity of Hagen. He received his doctorate degree in Chemistry at the University of Konstanz in 1990. He is member of SPE and serves the board of the Composites Division of SPE.

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