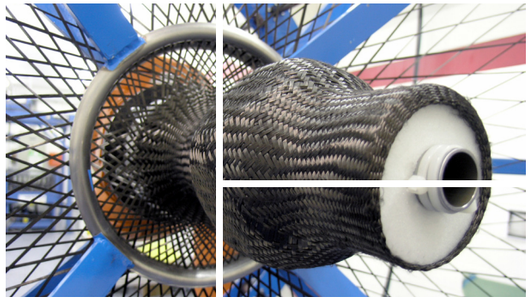
RWTH INTERNATIONAL ACADEMY AACHEN UNIVERSITY

ITA TexEng 3T

4th WORLD CONFERENCE ON 3D FABRICS AND THEIR APPLICATIONS



September 10th - 12th, 2012
Aachen, Germany

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SEPTEMBER 10th – 12th, 2012
RWTH AACHEN UNIVERSITY

MONDAY, 10th OF SEPTEMBER

09.00 to 10.00 Registration

10.00 to 10.30 **Plenary 1**
3D fabrics: a review of technology and applications.
Prof. John Hearle
TexEng Software Ltd and University of Manchester, UK

10.30 to 11.00 Applications of 3D fabrics for mobility, buildings, health and energy.
Prof. Thomas Gries
Institut für Textiltechnik der RWTH Aachen University, Germany

11.00 to 11.30 Break

11.30 to 12.00 **Plenary 2**
Multirapier: a weaving technology with available capacity towards the production of 3D-fabrics.
Ir. Geert De Clercq
University College Ghent, Belgium

12.00 to 12.30 3D woven structures and an overview of manufacturing technologies.
Dr. Amir Islam
Bally Ribbon Mills, USA

12.30 to 13.00 Difficulties in Meso-FE analysis of 3D composites and possible solutions.
Prof. Stepan Lomov
Department MTM, KU Leuven, Belgium

13.00 to 14.00 Lunch

14.00 to 14.30 **Plenary 3**
A new braiding machine for 3D fabrics.
Britta Kuckhoffand and Prof. Thomas Gries
Herzog Company and RWTH Aachen

14.30 to 15.00 "Innovator" multi rapier weaving machines from Vandewiele create New opportunities in 3D fabric weaving.
Dominique Maes
NV Michel Van de Wiele, Kortrijk, Belgium

15.00 to 15.30 2D/3D woven fabrics for ballistic protection
Dr. Xiaogang Chen
University of Manchester, UK

15.30 to 16.00 Break

16.00 to 16.30 **PARALLEL SESSIONS**

room 1 **Machines and Manufacturing**
3D profile weaving for mass production on conventional narrow looms.
Benedikt Wendland
Institut für Textiltechnik der RWTH Aachen University, Germany

room 2 **Modelling**
Advanced geometry modelling of 3D woven reinforcements in polymer composites: processing and performance analysis
Dr. Andreas Endruweit
University of Nottingham, UK

16.30 to 17.00 **PARALLEL SESSIONS**

room 1 **Machines and Manufacturing**
An experimental investigation into the structure and mechanical properties of 3D woven fabrics.
Prof. Bijoya Behera
I I T Delhi, India

room 2 **Modelling**
Computational mechanics of 3D warp knitted structures – an overview.
Prof. Yordan Kyosev
Hochschule Niederrhein - University of Applied Sciences, Germany

17.00 to 17.30 **PARALLEL SESSIONS**

room 1 **Machines and Manufacturing**
Dynamic in-situ measurements of 3D composite material mechanical constraints during the weaving process.
Nicolas Trifigny
Ensait-Gemtex, Champier, France

room 2 **Modelling**
Development and analysis of crossing of 3D voluminous stiffeners.
Maxime Kowalski
ENSAIT – GEMTEX, France

19.00 to 22.00 Evening Event

TUESDAY, 11th OF SEPTEMBER

9.00 to 9.30 **Plenary 4**
Quality in 3D woven carbon fiber for use in commercial aircraft.
Alan Prichard
Prichard Consulting LLC, USA

9.30 to 10.00 Growth opportunities for composites in aerospace.
Prof. Andrew Walker
University of Manchester, UK

10.00 to 10.30 Mechanical models for large deformation analyses of 3D interlock composite preforms.
Prof. Philippe Boisse
INSA Lyon, France

10.30 to 11.00 Break

11.00 to 11.30 **Plenary 5**
Differentiating architectural aspects of 3D woven profiles for structural applications.
Prof. Nandan Khokar
Biteam AB, Sweden

11.30 to 12.00 Use of 3D weaving technology in the development of complex thermo-structural composite.
Dr. Marie Lefebvre
Herakles - Snecma Propulsion Solide - SAFRAN Group, France

12.00 to 12.30 3D weaving for vascular graft manufacturing.
Maureen Reppy
MAGEBA Textilmaschinen GmbH & Co. KG, Germany

12.30 to 13.00 3-D woven fabrics as filtration media in a membrane bioreactor for treating wastewater.
Prof. Yipin Qiu
Donghua University, Shanghai, China

13.00 to 14.00 Lunch

14.00 to 14.25 **PARALLEL SESSIONS**

room 1 **Composites 1**
High-performance lightweight multifunctional composites based on 3D-shaped multilayered woven fabrics.
Roland Kleicke
Technische Universität Dresden, Germany

room 2 **Applications 1**
Experimental and numerical investigation of a 3D fabric subjected to ballistic impact.
Dr. Cuong Ha-Minh
ENSAIT Roubaix, France

14.25 to 14.50 **PARALLEL SESSIONS**

room 1 **Composites 1**
Development of high stiffness 3D multi-layered woven preforms from hybrid yarns for fibre-reinforced composites materials.
Adil Mountasir
Technische Universität Dresden, Germany

room 2 **Applications 1**
2D and 3D Warp Interlock Composites under High Velocity Impacts.
Benjamin Provost
ENSAIT – GEMTEX, France

14.50 to 15.15 **PARALLEL SESSIONS**

room 1 **Composites 1**
Investigating the effect of porosity on thermal characteristics of 3D orthogonal C-SiC composite using finite element method.
Abdulrahman Alghamdi
University of Manchester, UK

room 2 **Applications 1**
Low velocity impact behavior of multilayer textile composites: fibre architecture and hybridization.
Prof. Alagirusamy Ramasamy
Indian Institute of Technology Delhi, India

15.15 to 15.40 **PARALLEL SESSIONS**

room 1 **Composites 1**
Bending rigidity of laminated fabric considering the placement of neutral axis of a fabric.
Professor Masayuki Takatera
Shinshu University, Japan

room 2 **Applications 1**
Experimental characterization of the tensile behavior of a polypropylene/glass 3D-fabric:from the yarn to the fabric.
Jean-Emile Rocher
PRISME Laboratory, University of Orleans, France

15.40 to 16.00 **Break**

16.00 to 16.25 **PARALLEL SESSIONS**

room 1 **Composites 2**
Automation: the key to mass production of composites and future mobility.
Dr. Harald Kuolt
J. Schmalz GmbH, Germany

room 2 **Applications 2**
Post-impact bending behavior of 3D composite beam made by tubular braided fabric.
Dr. Mehdi Kamali Dolatabadi
Islamic Azad University

16.25 to 16.50 **PARALLEL SESSIONS**

room 1 **Composites 2**
3D woven fabrics: products and applications.
Pascal Ghekiere
Pascha Velvet bvba 3D Weaving, Belgium,
Sander De Vrieze
Centexbel, Belgium

room 2 **Applications 2**
Design and manufacture of 3D weft knitted structures as hybrid biomedical vascular implants.
Charanpreet Singh
Deakin University. Australia

16.50 to 17.15 **PARALLEL SESSIONS**

room 1 **Composites 2**
Meso-scale analysis of the deformability of a non-crimp 3D orthogonal weave E-glass composite.
Dr. Juan Pazmino
Politecnico di Milano, Italy

room 2 **Applications 2**
3D weaving techniques applied in long-term monitoring of brain activity.
Siw Eriksson
University of Boras,The Swedish School of Textiles, Sweden

17.15 to 17.40 **PARALLEL SESSIONS**

room 1 **Composites 2**
Numerical modelling of the weaving process for textile composite.
Jerome Vilfayeau
ENSAIT, Roubaix, France

room 2 **Applications 2**
Effect factors of conductive yarn to the electromagnetic performance of the three dimensionally integrated microstrip antenna.
Dr. Fujun Xu
Donghua University, Shanghai, China

WEDNESDAY, 12th OF SEPTEMBER

9.00 to 16.00 Technical tour through Institut für Textiltechnik (ITA) der RWTH Aachen University
City tour through Aachen

3D Fabrics Conference

POSTERS AND PAPERS

The Posters will be on display during the breaks and between the sessions.

Abstracts for Posters can be submitted on **www.texeng.co.uk** up to August 31, 2012. A list of those accepted will be updated on the website.

We will produce a conference proceeding (as a CD Rom) that contains all submitted papers.

INITIATORS

CONFERENCE CO-CHARS
Prof. John W S Hearle, TexEng Software Ltd
Prof. Thomas Gries, RWTH Aachen University
Ir. Geert De Clercq, University College Ghent

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Dr. Hugh Gong, School of Materials, University of Manchester
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TexEng Software Ltd, Manchester UK
TexEng Software Ltd was set up to provide computer programs that help industry to design and manufacture technical textiles and predict their performance. www.texeng.co.uk

Institut für Textiltechnik (ITA) of RWTH Aachen University
ITA is a R&D service provider for fibre processing, yarn production, textile fabric production, product development and production technologies. www.ita.rwth-aachen.de

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WHEN
September 10th - 12th, 2012

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RWTH Aachen University
Templergraben 57
52062 Aachen, Germany

FEES
460 € Conference & Tours (3 days)
400 € Conference (2 days)
330 € Speakers (including attendance at conference)
210 € Students (2 days + tour for free)

The conference days can also be booked separately.
For more information and registration see **www.texeng.co.uk**.

ACCOMODATION
We recommend to book a room via the aachen tourist service where we have booked some contingents. You can find the list of hotels here:
www.aachen-congress.de/hotels/wc3d2012

For further details regarding the hotel rooms please contact the aachen tourist service:

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