International Glass Fiber Symposia

Programme

Aachen, Germany
October 16 - 19, 2012

www.ita.rwth-aachen.de/ita/glassconf/index.htm

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Conference Venue:

RWTH Aachen University
Super C building, 6th floor
Templergraben 57
52062 Aachen, Germany
+49 241 80 90801
www.rwth-aachen.de

Preface

The Institut fuer Textiltechnik and the Institute of Mineral Engineering, Department of Glass and Ceramic Composites, of the RWTH Aachen University are proud to welcome you to the International Glass Fiber Symposia 2012 which will be held in Aachen, Germany from October 16 -19, 2012.

Adaptation to the changing world around us can be enhanced only through the successful exchange of information. The International Glass Fiber Symposia covers the topic of nowadays glass fiber technologies in a comprehensive way.

The International Glass Fiber Symposia has attracted numerous scientists, chief executive officers, directors of associations, R&D leaders, and academics professors.

We would like to express our sincere thanks to all delegates for responding to our call to attend the conference, as well as to the speakers and authors who accepted to share their knowledge.

The response to our call for papers was excellent; oral contributions have been selected to be presented by authors from 15 countries.

Even if the technical presentations will be the heart of the conference, networking opportunities are part of the agenda. The International Glass Fiber Symposia will also allow the encounter of technical and marketing communities.

Preface

These are the goals of the International Glass Fiber Symposia 2012:

- Bridging the gap between Material sciences to glass textile technology to final product manufacturing.
- Bringing together academic and industry researchers in order to stimulate the interaction and the exchange of information between all players of the glass fiber sector, extending from the raw materials to the final product.
- Inspiring the naissance of research and development projects by exchanging new ideas and addressing new themes.

Thus, the International Glass Fiber Symposia 2012 will provide an excellent opportunity to exchange information, extend your knowledge, and strengthen your network.

We are looking forward to meet you at the International Glass Fiber Symposia 2012, hoping that your time in Aachen will turn out to be both a productive professional experience and an enjoyable visit.

Prof. Dr. Thomas Gries	Prof. Dr. Reinhard Conradt
Head of Institut für Textiltechnik	Head of Department of Glass and Ceramic Composites, Institute of Mineral Engineering

Tuesday, 16 October 2012

16:00 to 20:00 Registration & Welcome

16:00 Registration

16:45 **Welcome**

Prof. T. Gries

RWTH Aachen University, Institut für Textiltechnik, Aachen, Germany

17:00 **Approach to the mechanical Properties of inorganic Glasses**

Prof. R. Conradt

RWTH Aachen University, Institute of Mineral Engineering, Department of Glass and Ceramic Composites, Aachen, Germany

17:15 Keynote Lecture

How much do we know about mechanical Properties of Glass Fibers?

Prof. Y. Yue

Section of Chemistry, Aalborg University, Aalborg, Denmark

18:00 Get Together

Time schedule of sessions

Wednesday, 17 October

08:30 to 10:50	Opening
11:20 to 12:35	Surface of Glass Fibers
13:30 to 14:45	Special Fibers
15:15 to 17:20	Properties of Glass Fibers

Thursday, 18 October

09:00 to 10:40	Development of Glass Fibers
11:10 to 12:25	Glass Wool
13:30 to 15:35	Textiles
15:45 to 17:00	Composites

Friday, 19 October

09:30 to 12:05	Production of Glass Fibers

Wednesday, 17 October 2012

Opening

Chair: Prof. Dr. Thomas Gries
Aachen, Germany

08:30 **Glass Fiber Textile Technology at the ITA**

T. Gries
RWTH Aachen University, Institut für Textiltechnik, Aachen, Germany

09:05 **Composites Business - current Market Trends & further Opportunities to grow through Innovation An Owens Corning Perspective**

A. Bertherau
Owens Corning, Granville, USA

09:40 **The European Composite Industry - Composites in a changing Environment**

V. Fritz
EUCIA - European Composites Industry Association, Brussels, Belgium

10:15 **Current Developments in Glass Fiber Reinforced Plastics - Life Cycle Assessment of Continuous Filament Glass Fibers**

J. van der Woude
PPG Fibre Glass, Hoogezand, The Netherlands

10:50 Coffee Break

Wednesday, 17 October 2012

Surface of Glass Fibers

Chair: Prof. Dr. Thomas Gries
Aachen, Germany

11:20 **Glass Fibers: From Reinforcement to Smart Materials**

E. Mäder
Leibniz Institute of Polymer Research, Dresden, Germany

11:45 **Interfacial Response in Glass Fiber Polypropylene Composites**

T. Rasheed[1], F.R. Jones[2], S. Akbar[1], S. Mirza[1]
[1]SUPARCO, Karachi, Pakistan
[2]The University of Sheffield, Department of Engineering Materials, Sheffield, United Kingdom

12:10 **Synthesis, Characterization and Environmental Applications of a Photocatalyst with TiO_2 on Glass Fibre Substrate**

C. Orbeci[1], I. Untea[1], GH. Nechifor[1], C. Bandas[2], C. Lazau[2], C. Orha[2]
[1]University „Politehnica“ of Bucharest, Department of Analytical Chemistry and Environmental Engineering, Bucharest, Romania
[2]National Institute for Reserach and Development in Electrochemistry and Condensed Matter, Condensed Matter Department, Timisoara, Romania

12:35 Lunch

Wednesday, 17 October 2012

Special Fibers

Chair: Prof. Dr. Edith Mäder
Dresden, Germany

13:30 **Production and Mechanical Characterization of Phosphate Glass Optical Fibres**

E. Mura[1], J. Lousteau[1], D. Negro[1], D. Milanese[2] and V.M. Sglavo[2]

[1]Politecnico di Torino, DISAT, Institute of Physics and Materials Engineering, PhotonLab, Italy
[2]Università di Trento, DIMTI, Trento, Italy

13:55 **Synthesis and Structural Characterization of SilicoBoron Oxycarbide (SiBOC) Ceramic Fibers**

V. Proust[1], C. Quievryn[1], S. Bernard[1], V.L. Nguyen[2], G.D. Soraru[2], P. Miele[1]

[1]Institut Européen des Membranes IEM, Université Montpellier, France
[2]Dipartimento di Ingegneria dei Materiali e Tecnologie Industriali, Università di Trento, Trento, Italy

14:20 **Phosphate-based Glass fibres: Applications within Healthcare**

I. Ahmed[1], A.J. Parsons[1], J. Liu[2] and C.D. Rudd[1]

[1]Faculty of Engineering, Division of Materials, Mechanics and Structures, University of Nottingham, Nottingham, United Kingdom
[2]Sinoma Science & Technology Co. Ltd., Jiangning District, Nanjing, China

14:45 Coffee Break

Wednesday, 17 October 2012

Properties of Glass Fibers

Chair: Hong Li, Ph.D.
Pittsburgh, USA

15:15 **Considerations in Glass Fiber Strength**

M. Korwin-Edson
Owens Corning Science & Technology LLC, Granville, USA

15:40 **Two Distinct Structural Domains for sub-Tg Relaxation in Glass Fibers**

Y. Zhang[1,2], Y. Yue[1,2]
[1]Section of Chemistry, Aalborg University, Aalborg, Denmark
[2]Key Laboratory of Processing and Testing Technology of Glass & Functional Ceramics of Shandong Province, Shandong Polytechnic University, Jinan, China

16:05 **Mechanical Properties of High-Strength (HS) Glass Fibers**

Q. Zu, J.S. Liu, G.H.Ling
Sinoma Science & Technology Co. Ltd., Jiangning District, Nanjing, China

16:30 **Optical and mechanical anisotropy of oxide glass fibers**

J. Deubener[1], Y. Yue[2]
[1]Institute of Non-Metallic Materials, Clausthal University of Technology, Clausthal-Zellerfeld, Germany
[2]Section of Chemistry, Aalborg University, Aalborg, Denmark

16:55 **Modell Approach to the mechanical Properties of Glasses**

R. Conradt[1], R. Dronskowski[2]

[1]RWTH Aachen University, Institute of Mineral Engineering, Department of Glass and Ceramic Composites, Aachen, Germany
[2]RWTH Aachen University, Institute of Inorganic Chemistry, Chair of Solid-State and Quantum Chemistry, Aachen, Germany

Development of Glass Fibers

Chair: Prof. Dr. Reinhard Conradt
Aachen, Germany

09:00 **Innovative Glass Fiber Developments aimed at improved Composite Properties for stronger and lighter Wind Turbine Blades**

L. Peters, W. Piret, D. Laurent, Y. Houet

3B, the fibreglass company, Battice, Belgium

09:25 **Development of basaltic Compositions for Single-Filaments**

K. Hellmann, R. Conradt

RWTH Aachen University, Institute of Mineral Engineering, Department of Glass & Ceramic Composites, Aachen, Germany

09:50 **Basalt Continuous Fibers with high Alkali Resistance Properties**

S.I. Gutnikov, YA.V. Lipatov, M.S. Manylov, B.I. Lazoryak

Division of chemical technology and new materials, Department of Chemistry, Moscow State University, Moscow, Russia

Thursday, 18 October 2012

10:15 **Alkaline Earth Aluminosilicate Glass: Route to High Modulus Fiber Reinforced Composites**

H. Li, J. Meng, C. Richards

Fiber Glass Science and Technology, PPG Industries Inc., Pittsburgh, USA

10:40 Coffee Break

Glass Wool

Chair: Prof. Yuanzheng Yue, Ph.D.
Aalborg, Denmark

11:10 **Overview of Different Fiberizing Technologies to produce attenuated Fibers**

S. Woltz, J. Woltz

Woltz GmbH, Wertheim, Germany

11:35 **Modelling, Simulation and Optimization of Rotational Glass Wool Process**

D. Hietel[1], J. Mohring[1], J. Schnebele[1], R. Wegener[1], S. Woltz[2]

[1]Fraunhofer Institute for Industrial Mathematics (ITWM), Kaiserslautern, Germany
[2] Woltz GmbH, Wertheim, Germany

12:00 **What happens on the Surface of Stone Wool Fibers during Heat Treatment?**

M.M. Smedskjaer[1], Y. Yue[1], M. Solvang[2]

[1]Section of Chemistry, Aalborg University, Aalborg, Denmark
[2]Rockwool International A/S, Denmark

12:25 Lunch

Thursday, 18 October 2012

Textiles

Chair: Dr. Mohit Raina
Aachen, Germany

13:30 **New Tensile Test Device for High Modulus Multi-Filament Yarns**

R. Rypl[1], R. Chudoba[1], U. Mörschel[2], V. Eckers[3]
[1]Institute of Structural Concrete, RWTH Aachen University, Aachen, Germany
[2]Textechno Herbert Stein & Co. KG, Mönchengladbach, Germany
[3]Institut für Textiltechnik der RWTH Aachen University, Aachen, Germany

13:55 **Analysing the Draping Behaviour of Glass Fiber Fabrics**

M. Christ[1], B. Sköck-Hartmann[2], H. Krieger[2], T. Gries[2], A. Herrmann[1]
[1]Faserinstitut Bremen e.V. (FIBRE), Bremen, Germany
[2]Institut für Textiltechnik der RWTH Aachen University, Aachen, Germany

14:20 **Production of Glass Fabrics – Increase in Productivity through DORNIER Weaving Machines**

A. Felder
Lindauer DORNIER GmbH, Lindau, Germany

14:45 **Optimax: Solutions for Quality Woven Glass Fibre Fabrics**

N.N.
Picanol, Ieper, Belgium

Thursday, 18 October 2012

15:10 **Compression Behaviour of Glass Fibre knitted and woven Fabrics**

M. Barburski[1,2], S.V. Lomov[1]

[1]Katholieke Universiteit, Department MTM, Leuven, Belgium
[2]Technical University of Lodz, Institute of Architecture of Textile, Lodz, Poland

15:35 Coffee Break

Composites

Chair: Prof. Roberto Frassine
Milan, Italy

15:45 **Analysis of Filament Distribution in Glass/PP commingled Yarns used for Thermoplastic Composites**

O. Stolyarov

St. Petersburg State Polytechnical University, St. Petersburg, Russia

16:10 **Multi-Axial-Technology for the Production of innovative Textile semi-finished Products for Wind Energy**

R. Seuß[1], J.Märtin[1], S. Fichtner[1], P. Abel[2], T. Gries[2]

[1]LIBA Maschinenfabrik GmbH, Naila, Germany

[2]Institut für Textiltechnik der RWTH Aachen University, Aachen, Germany

16:35 **Towards a new Design Approach for bending loaded Composite Spring Elements made of Glassfiber-epoxy**

D. Müller

Mubea Fahrwerkstechnologien GmbH, Attendorn, Germany

Thursday, 18 October 2012

Banquet

19:00 to 22:30

Spielcasino Aachen
Monheimsallee 44
52062 Aachen
Tel: (0049) 241 1808-0

Performance of „City Blues Band“

Friday, 19 October 2012

Production of Glass Fibers

Chair: Dr. Matthias Lindig
Lohr am Main, Germany

09:30 **Fibre Glass Melting - A Challenge apart from Mass-Produced Goods**

M. Lindig
Nikolaus Sorg GmbH, Lohr am Main, Germany

09:55 **How to make Bushing Control „green“?**

R.R. Meulemann[1], S. Rutkowski[2], M. Moeginger[3]
[1]Invensys Operation Management - Eurotherm, Alphen aan den Rijn, The Netherlands
[2]RoMan Manufacturing Inc., Grand Rapids, USA
[3]UAS, Germany

10:20 **Numerical Simulation of the Tip Plate Temperature Gradient in a Glassfiber Bushing during Production**

U.A. Ozden[1], A. Bezold[1], C. Broeckmann[1], P. Simon[2], D. Laurent[2]
[1]Institute for Materials Applications in Mechanical Engineering (IWM), RWTH Aachen, Aachen, Germany
[2]3B, the fibreglass company, Battice, Belgium

10:45 Coffee Break

Friday, 19 October 2012

11:15 **A numerical study of glass fiber drawing process**

Q. Chouffart[1], D. Laurent[2]

[1]University of Liège, Aerospace and Mechanical Engineering Department, Liège, Belgium
[2]3B, the fibreglass company, Battice, Belgium

11:40 **Modular Model of Fiber Drawing Process**

O. Prokhorenko

Laboratory of Glass Properties LLC, St. Petersburg, Russia

12:05 Lunch

Visiting Tour

13:00 **Institut für Textiltechnik of RWTH Aachen University**

General Information

Registration of Participants

To participate in the International Glass Fiber Symposia, please use the registration form, which you can find here:

http://www.ita.rwth-aachen.de/ita/glassconf/download/Registration.pdf

Each registration form is to be used for only one participant (and 1 accompanying person). It has to be sent to by **17 September 2012** at the latest:

E-Mail:

davide.pico@ita.rwth-aachen.de

Fax:

0049-241-8022422

Mail:

Institut für Textiltechnik

Otto-Blumenthal-Str. 1

52074 Aachen

Germany

Registration Fees

early payments before May 15, 2012:	300€
regular payments after May 15, 2012:	350€
undergraduate students:	20€

Undergraduate students have to verify their status on the day of registration!

Conference Dinner (for undergraduate students and accompanying persons):	50€

General Information

Registration fee includes: attendance to the scientific sessions; conference facilities; proceedings (hard copy & CD-Rom); welcome cocktail; coffee breaks; lunches; dinner (only full fee)

Cancellation:

Cancellations have to be send to

davide.pico@ita.rwth-aachen.de. If we receive your cancellation until 1 October 2012, 20% of your registration fee will be charged.

Accommodation:

Accommodation should be booked separately, for example here:

http://www.aachen.de/EN/ts/130_onlinebooking/index.html

Conference Venue:

RWTH Aachen University

Super C building, 6th floor

Templergraben 57

52062 Aachen, Germany

+49 241 80 90801

http://www.rwth-aachen.de/cms/root/Die_RWTH/Kontakt_Lageplaene/~epe/Gebaeude_Lageplaene/

Conference Language:

The conference language is English.

Registration Desk:

The registration desk is located in the Foyer of the 6th floor at Super C building.

Registration is possible at Tuesday, 16 October 2012 from 16:00 and on Wednesday, 17 October 2012 from 8:00.

General Information

Conference Documents:

Participants will receive an invoice if the registration is submitted by 17 September 2012. The conference documents are available at the registration desk. They include an abstract booklet and a list of participants as hardcopy and the submitted papers in digital form.

Journey to RWTH Aachen University, Super C building:

By Car:

Take motorway A4/E314 (Cologne - Antwerpen) and leave it at exit No. 2 „Aachen-Laurensberg“. Follow the signing „RWTH-Mitte“.

By Bus:

There is a bus stop next to the main building of RWTH Aachen University called „Technische Hochschule“. For further information look at www.avv.de.

By Train:

Aachen Central Station is connected with international express trains. The nearest railway station to the Super C building is „Aachen West“ which can be reached with local trains. You can find further information here: www.bahn.de

By plane:

Düsseldorf Airport is the nearest international airport. It is well connected via train with Aachen Central Station. There runs an express train directly between Frankfurt Airport and Aachen four times a day.

Contact

http://www.ita.rwth-aachen.de/ita/glassconf/index.htm

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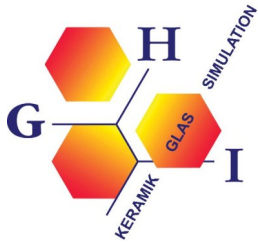

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City Map


Düsseldorf
Köln
AB-Kreuz Aachen
44
544
Trierer Straße
Ausfahrt 3 AC-Zentrum Würselen
Jülicher Straße
Europaplatz
Ausfahrt 2 AC-Laurensberg
4
Krefelder Straße
Casino
Super C
Aachen City Center
Central Station
Roermonder Straße
Seffenter Weg
Parkring
Vaalser Straße
Universitäts Klinikum
Antwerpen
ITA