



**3<sup>rd</sup>**  
**EDITION**

**ERIF 2017**

# Europe Rubber Industry Forum

**all about  
rubber compounding**

*Organized by*



**Rubber Industry  
Department @ TechnoBiz**

**9-11 MAY 2017  
VIENNA, AUSTRIA**

[www.technobiz-europe.com](http://www.technobiz-europe.com)

# EUROPE RUBBER INDUSTRY FORUM 2017

## All about Rubber Compounding

9-11 May 2017, Vienna, Austria

**TechnoBiz Europe** is organizing 2<sup>nd</sup> Edition of “ERIF 2017: Europe Rubber Industry Forum 2017”, a specialized event aimed for rubber industries in the Europe. The event theme is “**All about Rubber Compounding**”. This forum is focusing on latest technical developments on rubber compounding and practical needs of rubber compounders. In almost all processes, rubber compound has the largest influence on total cost; whether it is extrusion, molding or any other process. This forum covers material, machinery, processing, testing and costing aspects of compounding and aimed for both technical and non-technical from rubber industries. For the sustainability of the industry, “Innovation and Knowledge” play an important role to be cost effective in production. This forum is all about innovations and knowledge aspects of rubber compounding. Leading rubber technologists and researchers are presenting specialized topics. Along with the presentations, panel discussions on “**Influence of Compounding on Technology and Rubber Processing**” will be organized as part of the forum to create an interactive platform for both delegates and speakers. These presentations and panel discussion are a major section of this Forum.

As part of this forum, two specialized training courses will be held. Prof. Dr. Rober Schuster will be teaching 1-day course: **Rubber Reinforcement with Carbon Black & Silica** and Dr. Hans-Joachim Graf will be teaching an one day training course on “**Rubber Technology for Non-Technologists**”.

### Event Schedule

- ▶ 9 May 2017: Training Courses
- ▶ 10-11 May 2017: Conference Program
- ▶ 10 May 2017: Europe Rubber Technologists Dinner 2017

### 9 May 2017 : Training Courses

09.00-17.00 | **Rubber Reinforcement with Carbon Black & Silica**  
Prof. Robert Schuster, Germany

09.00-17.00 | **Rubber Compounding for Non-Technologists**  
Dr. Hans-Joachim Graf

DAY 1

### 10-11 May 2017: Conference – All about Rubber Compounding

#### 10 May 2017

09.00-09.10 | **Welcome Remarks & Introduction**  
Dr. Thomas Früh

09.10-09.40 | **Surgeon Gloves with Innovative UV-Technology – A New Dimension in Skin Care and Handling Comfort**  
Dr. Armin Holzner

09.40-10.10 | **Compounding performance latex products for European regulation** Gunther Lottmann

DAY 2

10.10-10.40	<b>What is Essential for a Rubber Compounding Factory?</b> Dr- Andreas Bischoff
10.40-11.00	<b>COFFEE/TEA BREAK</b>
11.00-11.30	<b>What Basic Knowledge is Required in a Tire Compounding Factory?</b> Thomas Hanel
11.30-12.00	<b>Rheological and Thermodynamical Characterization of Rubber Compounds - How to Provide Reliable Data</b> Prof. Dr. Walter Friesenbichler
12.00-12.30	<b>Protection of Diene-Containing Elastomers against Cracks by Ozone</b> Jürgen Trimbach
12.30-13.30	<b>LUNCH</b>
13.30-14.00	<b>Modified SSBR and it Properties</b> Dr. Sibyll Ilisch
14.00-14.30	<b>Improved Properties of Model Tire Tread Compounds based on New Functionalized SSBR</b> Natalia Meissner
14.30-15.00	<b>COFFEE/TEA BREAK</b>
15.00-15.30	<b>EPDM by Design</b> Dr.Varun Thakur
15.30-16.00	<b>New approach in sponge formulations with very high molecular weight EPDM</b> Eric Jourdain
16.00-16.30	<b>Recent Developments on EPDM compounds used in Automotive Sealing Systems – Surface Properties and Light Weight</b> Dr. Dominik Schramm
16.30-17.00	<b>Formulation of EPDM: Important Factors Influencing Their Properties Caused by Changes of the Base Polymers</b> Dr. Mathias Soddemann
17.00-17.30	<b>SLIP-COAT Waterbased Coatings for Automotive Window and Door Seals</b> David Bareich

## 11 May 2017

08.45-09.00	<b>DAY 1 RECAP</b>
09.00-09.10	<b>“Europe Rubber Technologist 2017” Award Presentation</b>
09.10-09.40	<b>Experimental Results on Morphological and Engineering Consequences of Good and Bad Mixing</b> Dr. Dariusz Bielinski
09.40-10.10	<b>Review of Mixing and it's Effect on Polymer Performance</b> <span style="border: 1px solid red; border-radius: 50%; padding: 2px; color: red; font-weight: bold;">DAY 3</span> Dr. Hans-Joachim Graf
10.10-10.40	<b>Rubber Injection Molding and its Specific Peculiarity</b> Leopold Praher
10.40-11.00	<b>COFFEE/TEA BREAK</b>
11.00-11.30	<b>How to Design NBR-Rubber Compounds</b> Robert Stäber
11.30-12.00	<b>Compounding Vamac AEM for Various Applications</b> Klaus Kammerer
12.00-12.30	<b>PANEL DISCUSSION</b>

12.30-13.30	<b>LUNCH</b>
13.30-14.00	<b>Improving Low Temperature Properties and Curing Behavior of Specialty Rubbers by Ionic Liquids</b> Prof. Robert Schuster
14.00-14.30	<b>Utilizing Neuburg Siliceous Earth to improve economical and physical properties – various compounding strategies</b> Nicole Holzmayr
14.30-15.00	<b>Compounding for a Constant Crosslinking Density</b> Nikhil Mody, Dr. Hans-Joachim Graf
15.00-15.30	<b>COFFEE/TEA BREAK</b>
15.30-16.30	<b>PANEL DISCUSSION</b>

## Europe Rubber Technologists Dinner 2017

On 10th May 2017, "Europe Rubber Technologists Dinner 2017" will be organized as part of this forum. This dinner is aimed to be networking platform for rubber technologists based in Europe to exchange ideas and information. This dinner event is open for both delegates and non-delegates of the forum. The dinner ticket cost is 75€ /person. The dress code is business attire. Anyone with minimum 5 years technical experience in the rubber processing based in Europe are invited to join this unique dinner event.

## Europe Rubber Technologist 2017 Award

TechnoBiz has initiated "Europe Rubber Technologist" award to honor the dedicated rubber technologists who contributed to benefit the Europe Rubber Industry. The organizing committee will select the rubber technologist who is European National with practical, teaching and research experience for this award. This award will be presented at this forum. The 2016 Award was given to Dr. Gerard Nijman.

## Corporate Sponsorship Opportunity: 6,000 Euros

Corporate Sponsorship for the ERIF 2017 will be offered to limited companies. The package include:

- ▶ Insertion of Logo in the promotional materials & documents
- ▶ Insertion of Product Catalogue in the Event Delegate Bag
- ▶ THREE Tickets to participate in all the forum activities including conference, training and networking dinner.
- ▶ Table-Top Booth to display products and services

## Training Courses

### Rubber Reinforcement with Carbon Black & Silica

The training is designed to provide an overview on filler reinforcement by Carbon Black and Silica/Silane in tire formulations and technical rubber goods. The advantages and disadvantages of both technologies will be presented. With the implementation of silica in the tire technology (green tire) the tread properties have been successfully improved with respect to rolling resistance and wet grip. This leads directly to significant reductions of fuel consumption and safe driving at higher speed. Details about silanization with different silanes (mono- and difunctional) under different mixing conditions and temperature regime, the degree of silanization, the impact on silica dispersion and dynamic mechanical as well as ultimate properties

will be presented. However, recent developments demonstrate that optimal dispersion of CB leads to similar performance and in addition a very substantial improvement of abrasion resistance. The key-parameter for this success is a properly designed filler surface activity and filler – polymer interaction. Key parameters to improve the processing parameters of rubber compounds as well as the final material properties are presented. The factors that lead to the required nano-dispersion of the reinforcing fillers will be discussed for the two different filler systems. In addition the problem of filler transfer and phase distribution of CB and polar precipitated silica in non-polar rubber blends (BR/SBR and BR/SBR/NR) will be an important part of the Seminar.

This course outline includes:

- ▶ Manufacturing of CB and Silica
- ▶ Characterization of Filler Particles
- ▶ Surface Specific Area and Structure
- ▶ Surface Activity
- ▶ Incorporation and Dispersion of CB and Silica
- ▶ Flocculation of filled Compounds
- ▶ Methods to measure Dispersion
- ▶ Technical Mixing Procedures
- ▶ Special Features of Silica/Silane Technology
- ▶ Properties of uncured filled Compounds
- ▶ Properties of cured filled Compounds
- ▶ Fracture Mechanical Features
- ▶ Functional Polymers for better Dispersion
- ▶ New Developments

### **Rubber Compounding for Non-Technologists**

This training program is aimed for non-technical personnel in the rubber industries. This is suitable for sales executives, purchasing managers, human resource managers as well as general managers, who are just entering the rubber industry, etc., and who are mainly non-technical people. Understanding each other is a precondition for successful cooperation and team working. The nature of rubber and its processes requires multidisciplinary thinking and cooperation in cross-functional teams. It is important to understand the technical terms and the way, technician think and act. The course is focusing on basics of rubber compounding and processing in easier terms, which covers following topics:

- ▶ Structure of Rubber Compounding Industry
- ▶ Rubber Raw Materials – Natural Rubber, Synthetic Rubber & Blends
- ▶ Rubber Chemicals – Types and Purpose
- ▶ The Rubber Compounding Unit
- ▶ Injection Molding, Extrusion and Miscellaneous Processes
- ▶ Testing of Rubber and its Meaning
- ▶ Process Approval Procedure and Quality Aspects
- ▶ Challenges in Rubber Manufacturing with Industry 4.0

### **Registration Fee / Person**

<b>Codes</b>	<b>Event Name</b>	<b>Fee/Person</b>
ER-1	Training : Rubber Reinforcement with Carbon Black & Silica	750 €
ER-2	Training : Rubber Technology for Non-Technologists	750 €
ER-3	Conference: All about Rubber Compounding	950 €
ER-4	Europe Rubber Technologists Dinner 2017	75 €
ER-5	Complete Forum (1-training course+conference+dinner)	1,600 €

## Instructors

**Prof. Robert Schuster:** Robert H. Schuster studied organic and physical chemistry. After receiving his PhD in Freiburg (Germany) he joined in 1984 the German Institute of Rubber Technology (DIK) in Hannover. As the director of DIK (1991 – 2011) he was involved in worldwide research projects concerning mixing, processing, vulcanization, rubber – filler interaction, new nanocomposites, recycling and environmental issues. Since 1995 R. H. Schuster is Professor at the University of Hannover. He is the author of three books and more than 450 articles. For his distinguished contributions to Rubber Science and Technology he received the “Carl Harries” Medal from the German Rubber Society (DKG) and the “Melvin Mooney” Award from the ACS Rubber Division. Currently Robert H. Schuster is foreign expert at the EVE Research Institute in Qingdao (China).



**Dr. Hans-Joachim Graf:** Hans-Joachim Graf has over thirty years' experience in the rubber industry. He was first with manufacturing companies for pharmaceutical and technical rubber parts. He then joined DESMA a manufacturer of Rubber Injection molding and polyurethane shoe machines responsible for process development, followed by RheinChemie as senior manager of material developments for rubber industry. After Cooperstandard Automotive (CAN), division of profile extrusion, as a director of materials, he joined WOCO (GE), a manufacturer of injection molded parts in charge for material development. Since retirement he act as a consultant in the rubber industry and science adviser for TechnoBiz-group. Mr. Graf has authored over 60 publications and paper presentations and invented more than 15 patents. He has given seminars for graduates at University of Waterloo and German Institute Rubber Technology (DIK). He is a member of the American Chemical Society (ACS), Rubber Division of ACS (RdofACS), Deutsche Chemische Gesellschaft (GDCh) and Deutsche Kautschuk Gesellschaft (DKG). He received his diploma degree from University of Mainz and his doctorate in polymer chemistry from University of Freiburg, both Germany. During DKT'12 (German Rubber Conference 2012) he was awarded with the Erich-Konrad Medal of the DKG.

## Venue

**Gartenhotel Altmannsdorf**  
1120 Vienna, Austria

## To Register, Please Contact

### **TechnoBiz Europe**

Josef Leistenschneider Strasse 27,  
63628 Bad Soden – Salmünster GERMANY  
Tel: +49-151 2000 6394 FAX: +49-3222 152 0721  
E-Mail 1: graf.hans-joachim@t-online.de  
E-Mail 2: technobiz.europe@gmail.com  
Web: www.technobiz-europe.com  
Dr. Hans-Joachim Graf / Peram Prasada Rao