



Fraunhofer

ICT



PROGRAM

13th International Symposium
and accompanying Exhibition
on Sophisticated Car Safety
Systems

Mannheim, Germany
Congress Center »Rosengarten«

2016, November 28-30

Program Committee

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**Chairman of the
Symposium**

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Fraunhofer ICT

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Karlsruhe Institute of Technology KIT, D



13th International Symposium and Exhibition on Sophisticated Car Occupant Safety Systems

Welcome

Road safety is still a key concern for all the sectors involved, including car manufacturers, suppliers and regulators. Developments in vehicle and road user safety emphasize integral safety through the fusion of active and passive safety systems. Although the benefits are well known to experts, there is clearly a need for close cooperation between all interested parties. The 13th AIRBAG 2000+ Symposium in 2016 will again be a meeting place for engineers, scientists, legislators, managers and marketing experts to exchange information, to make and improve contacts, to stimulate further progress and to promote integral safety for road users on an impartial platform.

The Fraunhofer Institute for Chemical Technology ICT is the leading independent research and development facility for airbag technology and testing. As a division of Fraunhofer, Europe's largest organization for applied and contract research, the Fraunhofer ICT offers a unique event for the automobile industry, suppliers and public authorities.

**Welcome to Mannheim, Germany,
and the world of Airbag 2016.**

Dr. Jochen Neutz
Chairman of the Symposium

Registration

Please return the enclosed **registration form or Online:**

www.ict.fraunhofer.de/airbag2016

You will then receive an **invoice**.

Registration fees (including proceedings, coffee breaks, lunch, evening receptions), depending on date of arrival of registration form at Fraunhofer ICT

*** up to November 11, 2016**

EURO 950,- (incl. 19 % VAT)

*** up to November 21, 2016**

EURO 1.050,- (incl. 19 % VAT)

Participation cannot be guaranteed for registrations arriving after November 21, 2016. A fee of EURO 500,- will be charged for cancellations after November 21, 2016. No-shows will be charged the complete fee.

Accommodation

www.ict.fraunhofer.de/airbag2016accommodation

Conference Office

is located in the **foyer of the Conference hall** and may be reached from **November 28 to November 30** by

Phone +49 (0)621-4106-5030

Check In / Welcome Reception

Please check in at the conference office on **Monday, November 28** between 13.00 and 20.00 h. All participants are cordially invited to the **Welcome Reception** in the foyer of the Conference hall on **Monday, November 28, 18.00 – 21.00 h.**

Conference Languages English, German – **Simultaneous Interpretation**

Proceedings

One copy of the proceedings is **included** in the registration fee. Additional copies EURO 100,-.

Altran Concept Tech GmbH
Gratkorn, A

Alt Technologies BV
Utrecht, NL

Autoliv Inc.
Stockholm, SE

Bluestar Silicones France SAS
Lyon, F

Continental Automotive GmbH
Regensburg, D

**Daicel Safety Systems
Europe Sp. z o.o.**
Żarów, PL

Daimler AG
Sindelfingen, D

Delphi Connection Systems
Guyancourt, F

Dow Corning
Seneffe, B

Electrovac Hacht & Huber GmbH
Salzweg, D

**Hirtenberger Automotive
Safety GmbH & Co KG**
Hirtenberg, A

INDET Safety Systems a.s.
Vsetin, CZ

INVISTA Textiles
Gloucester, UK

IPG Automotive GmbH
Karlsruhe, D

iSi Automotive Berlin GmbH
Berlin, D

**Jinzhou Jinheng Automotive
Safety System Co., Ltd.**
Jinzhou, PRC

**Key Safety Systems
Deutschland GmbH**
Raunheim, D

Lectra Deutschland GmbH
Ismaning, D

Mikron SA Boudry
Boudry, CH

**Dürkopp Adler
Aktiengesellschaft**
Bielefeld, D

**PFAFF Industriesysteme und
Maschinen GmbH**
Kaiserslautern, D mit Zweig-
niederlassung KSL, Lorsch D

**Gütermann GmbH,
Tech Tex / Automotive Zwicky**
Gutach im Breisgau, D

Robert Bosch GmbH
Stuttgart, D

Rogers Corporation
Gent, B

SCHOTT AG
Landshut, D

Schreiner Group, Pro Tech
Oberschleissheim, D

**Taihang Changqing Automobile
Safety System (Suzhou) Co., Ltd**
Suzhou, CN

Takata AG
Aschaffenburg, D

voestalpine Rotec GmbH & Co. KG
Annweiler, D

ZF Friedrichshafen AG
Friedrichshafen, D

Monday, November 28

Workshop (in GERMAN only)

begrenzte Teilnehmerzahl, Anmeldung formlos
an manuela.wolff@ict.fraunhofer.de

Teilnahmegebühr: EURO 119,- inkl. MWSt.
Frei für Teilnehmer des airbag-Symposiums

13.30 – 18.00

**Workshop "Retten ohne Risiko!" für
Rettungskräfte mit "Airbag-Update",
Einsatzberichten und Erfahrungsaustausch**
POC: Rolf.Erbe@berliner-feuerwehr.de

18.00 – 21.00

Welcome Reception for all participants
(Symposium, Workshop, Exhibition)

Tuesday, November 29

08.00 – 08.15

WELCOME AND OPENING

J. Neutz
Chairman of the Symposium
B. Hefer
Moderator of "airbag 2016"
Fraunhofer ICT, Pfinztal, D

08.15 – 9.00

**V1 THE ROLE OF PASSIVE SAFETY IN THE
CURRENT AND FUTURE ACCIDENT SCENARIO**

L. Hannawald, H. Liers
Verkehrsunfallforschung an der TU Dresden
(VUFO) GmbH, Dresden, D

**1st Session: Global Trends and
Requirements**

Session Responsible: Michael Fehring
Daimler AG, Sindelfingen, D

9.00 – 9.25

**V2 NHTSA'S FUTURE STRATEGIES FOR
OCCUPANT SAFETY**

S. Ridella
National Highway Traffic Safety Administration,
Washington, USA

9.25 – 9.50

V3 C-NCAP: TODAY AND TOMORROW

H. Zhu
China Automotive Technology Research Centre,
Tianjin, PRC

9.50 – 10.15 **V4** **LOOKING AHEAD: THE NEXT STEPS IN EURO NCAP'S SAFETY RATING**
 M. van Ratingen
 Euro NCAP, Brussels, B

10.15 – 10.45 **Coffee Break**

2nd Session: System Challenges and Answers
 Session Responsible: Adam McNeill
 BMW AG, München, D

10.45 – 11.10 **V5** **OBLIQUE IMPACT – A NEW FOCUS FOR PASSIVE RESTRAINT SYSTEMS**
 M. Wendt, B. Cyliax, H. Hofmann
 Takata AG, Berlin, D

11.10 – 11.35 **V6** **OBLIQUE BARRIER CRASH TEST LOAD CASE AS PART OF THE NEW US-NCAP RATING – REQUIREMENTS, CONSEQUENCES AND SOLUTIONS**
 K. Fischer, H.P. Bausch, L. Zink, A. Schroeder
 ZF TRW, Washington, USA

11.35 – 12.00 **V7** **PROTECTION SYSTEMS FOR SENIORS**
 B. Pipkorn, C. Sunnevang
 Autoliv, Vargarda, SE

12.00 – 12.45 **Poster Session**
 Session Chair:
 Hans Spies, Ingenieurbüro Spies, Hohenwarth, D
 Jens Bosch, Volkswagen AG, Wolfsburg, D
 Karl-Friedrich Ziegahn, Karlsruhe Institute of Technology KIT, D

12.45 – 14.00 **LUNCH BREAK**

3th Session: Methods and Testing
 Session Responsible: Jörg Szilagyi
 Autoliv B.V. & Co. KG, Dachau, D

14.00 – 14.25 **V8** **SMALL OVERLAP TEST SLED FOR VEHICLE DEVELOPMENT STRATEGIES**
 A. Sprick, A. Fornells, N. Parera
 Applus IDIADA, Santa Oliva, E

14.25 – 14.50 **V9** **VARIOUS APPROACHES TO THE "ZERO DEFECTED PASSENGER AIRBAG (PAB)" DEVELOPMENT**
 L. Jaehyeob, L. Chunzi
 Jinheng Automotive Safety System Co. Ltd.,
 Jinzhou City, PRC

14.50 – 15.15 **V10 A DATA-DRIVEN APPROACH TO DISTRIBUTED STRUCTURE AND RESTRAINT SYSTEM DESIGN IN FRONT CRASH**
 V. Lange
 BMW Group, München, D

15.15 – 15.40 **V11 APPLICATION OF A NEW METHOD FOR RECORDING RAPID MOVING SURFACES OF AIRBAGS DURING DEPLOYMENT**
 M. Lich
 Volkswagen AG, Wolfsburg, D

15.40 – 16.15 **Coffee Break**

4th Session: Simulation

Session Responsible: Heiko Ruck
 Takata AG, Aschaffenburg, D

16.15 – 16.40 **V12 PYROMECHANISMS FUNCTIONING SIMULATIONS BY THE USE OF A PYRO COMBUSTION-STRUCTURE COUPLING**
 H. Fresnel, N. Daviot
 Autoliv – Livbag, Pont-de-Buis, F

16.40 – 17.05 **V13 IMPROVEMENT OF GAS FLOW IN AIRBAG DEPLOYMENT SIMULATION FOR LOW RISK DEPLOYMENT TESTS**
 A. Diederich
 Toyoda Gosei Europe NV, Saarbrücken, D
 M. Asaoka, M. Aoki, H. Ida
 Toyoda Gosei Co. Ltd., Aichi, JAP

17.05 – 17.30 **V14 THUMS USER COMMUNITY – STANDARDISING THE APPLICATION OF HUMAN BODY MODELS**
 T. Fuchs, S. Peldschus, Ludwig-Maximilians-Universität, München, D
 M. Erzgräber, Adam Opel AG, Rüsselsheim, D
 F. Fürst, Audi AG, Ingolstadt, D
 C. Mayer, Daimler AG, Sindelfingen, D
 B. Pipkorn, Autoliv, Dachau, D
 J. Weber, Volkswagen AG, Wolfsburg, D
 P. Wernicke, BMW AG, München, D
 T. Yasuki, Toyota Motor Corporation, JAP

17.30 – 17.45 **AWARDS**

18.00 – 21.30 Evening Reception (in the foyer of the Conference Hall) with entertainment by **“Balanced Action”**

Wednesday, November 30

5th Session: Integrated Safety

Session Responsible: Dirk Schultz
ZF TRW, Alfdorf, D

- 8.00 – 8.25 **V15 INTEGRATED SAFETY OF THE NEW MERCEDES-BENZ E-CLASS**
M. Struck, R. Schöneburg
Daimler AG, Sindelfingen, D
- 8.25 – 8.50 **V16 FUNCTION BUNDLE INTEGRATED SAFETY – PORTFOLIO OF FUNCTIONS FROM PASSIVE TO COOPERATIVE SAFETY**
C. Kuhrt, R. Schnupp, E. Futterlieb, K. Rink,
B. Peters, M. Feser
Continental, Regensburg, D

6th Session: Autonomous Driving

Session Responsible: Ralf Schnupp
Continental, Regensburg, D

- 8.50 – 9.15 **V17 INTEGRATED SAFETY – PASSIVE AND ACTIVE SAFETY INTEGRATION TO ENHANCE OCCUPANT PERFORMANCE**
M. Shkoukani, M. Elias
Key Safety Systems, Sterling Heights, USA
- 9.15 – 9.40 **V18 DRIVER MONITORING SYSTEM AS ROAD FOCUS REMINDER; CASES FROM A FIELD STUDY**
J. Karlsson
Autoliv Research, Vargarda, SE
- 9.40 – 10.05 **V19 SAFE TRANSITIONS TO AND FROM AUTOMATED DRIVING**
A. Larsson
Autoliv Research, Vargarda, SE

10.05 – 10.40 **Coffee Break**

7th Session: Sensors

Session Responsible: Clemens Willke
Robert Bosch GmbH, Stuttgart, D

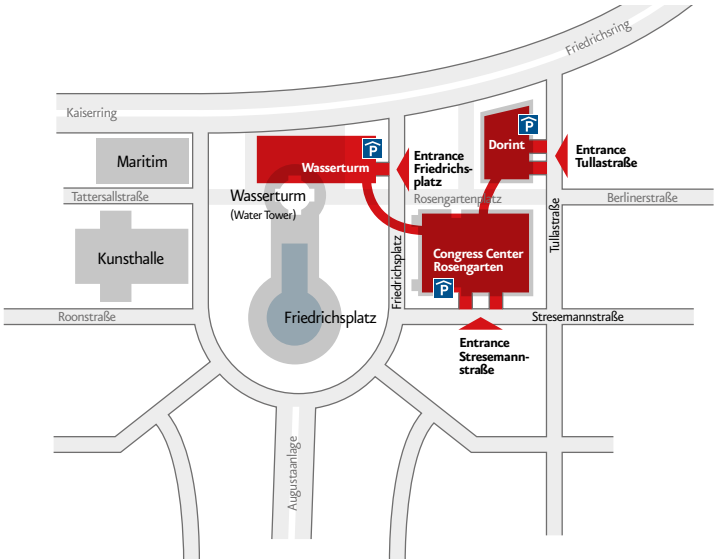
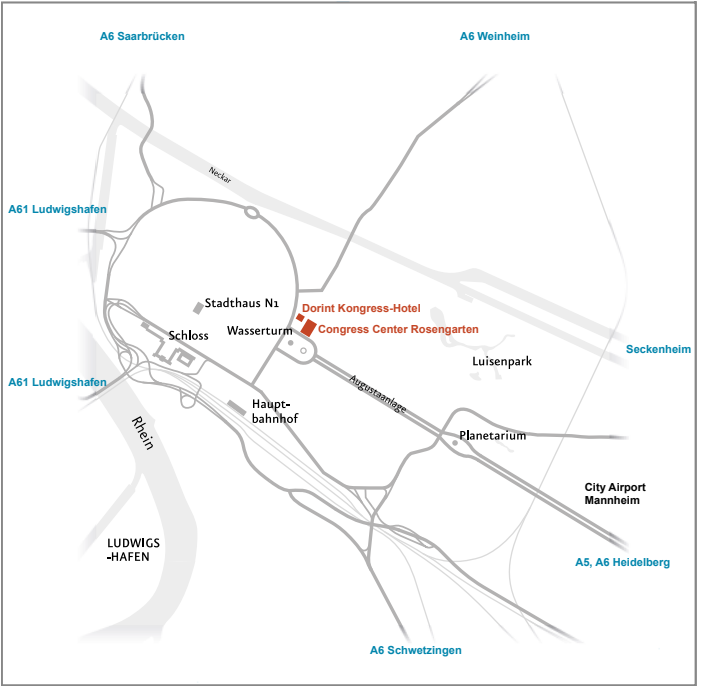
- 10.40 – 11.05 **V20 SENSORS FOR AUTONOMOUS DRIVING**
H. Spies
Ingenieurbüro Spies, Hohenwarth, D

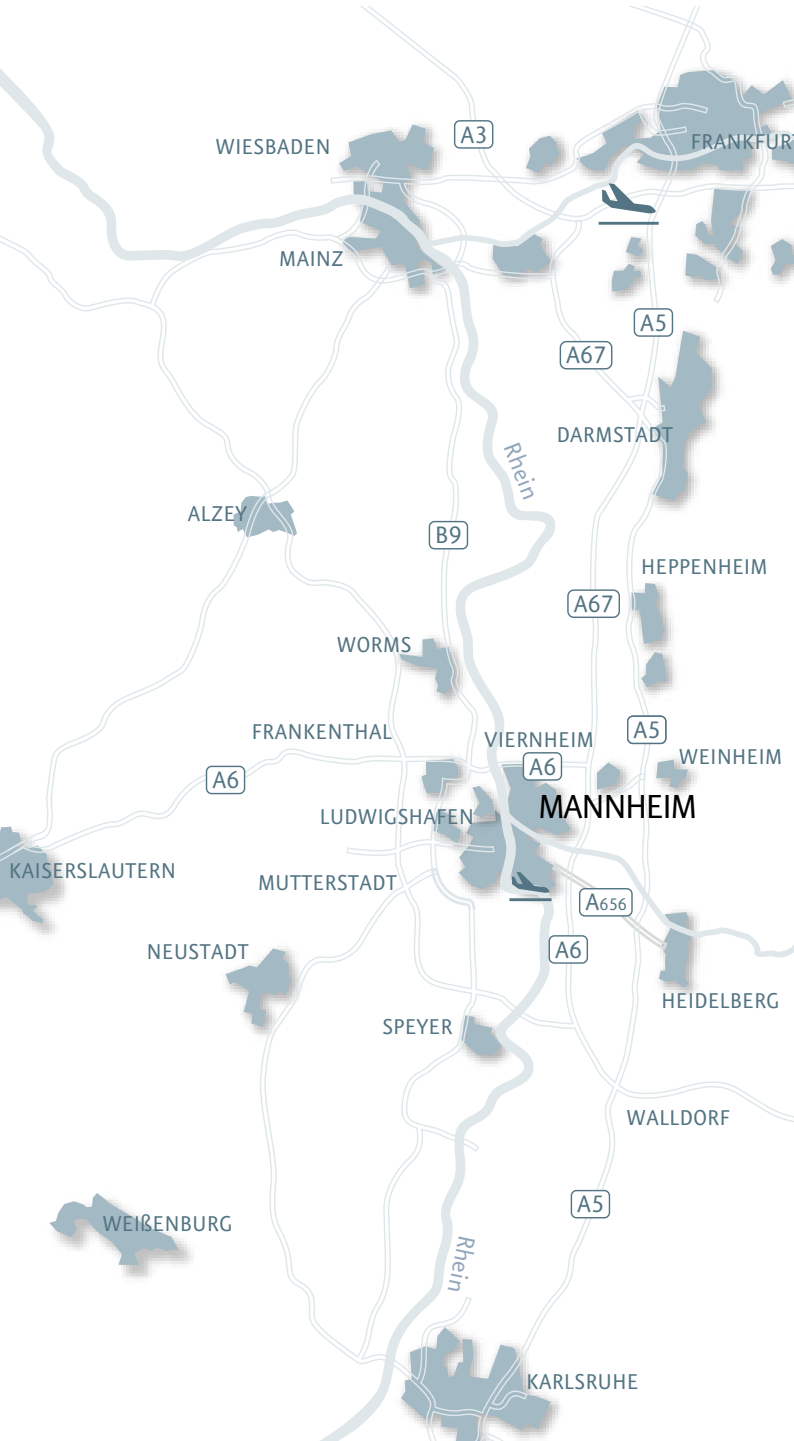
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| 11.05 – 11.30 | V21 | <p>INTERIOR SENSING FOR OCCUPANT PROTECTION</p> <p>W. Klier, T. Lich, H. Freienstein, G.-A. D'Addetta A. Köhler, B. Reckziegel, K. Shiozawa, A. Schulz Robert Bosch GmbH, Abstatt, D</p> |
| 11.30 – 11.55 | V22 | <p>ENHANCING THE VEHICLE SAFETY ROADMAP BY V2X SENSING</p> <p>K. Rink, U. Stählin, G. Jürgens Continental, Frankfurt/Main, D</p> |
| 11.55 – 13.15 | | <p>LUNCH BREAK</p> |
| <p>8th Session: Future Products Session Responsible: Wolfgang Hötter Audi AG, Ingolstadt, D</p> | | |
| 13.15 – 13.40 | V23 | <p>ENGINEERED OMEGA-Z FOLDING FOR DRIVER AIRBAGS</p> <p>S. Sapountzis, M. Poyant ZF TRW, Aschaffenburg, D</p> |
| 13.40 – 14.05 | V24 | <p>DEVELOPMENT OF NEW SEATBELT SYSTEM TECHNOLOGIES TO REDUCE INJURY RISKS</p> <p>A. Huf BMW Group, München, D B. Eickhoff Autoliv, Dachau, D</p> |
| 14.05 – 14.30 | V25 | <p>A DEVELOPMENT OF CENTER SIDE-AIRBAG</p> <p>Jiwoon Song, Hae Kwon Park, Kyu Sang Lee, Hwangbo Sang Won, Bae Young Kim, Hyo Bae Lee Hyundai MOBIS, Gyeonggi-do, KOR</p> |
| 14.30 – 14.55 | V26 | <p>THE POTENTIAL OF WEARABLE AIRBAG SYSTEM: EXAMPLE FOR THE PROTECTION OF MOTORCYCLISTS</p> <p>P.-F. Tissot, V. Honore In&Motion, Chavanod, F</p> |
| 14.55 | | <p>Closing Remarks</p> |

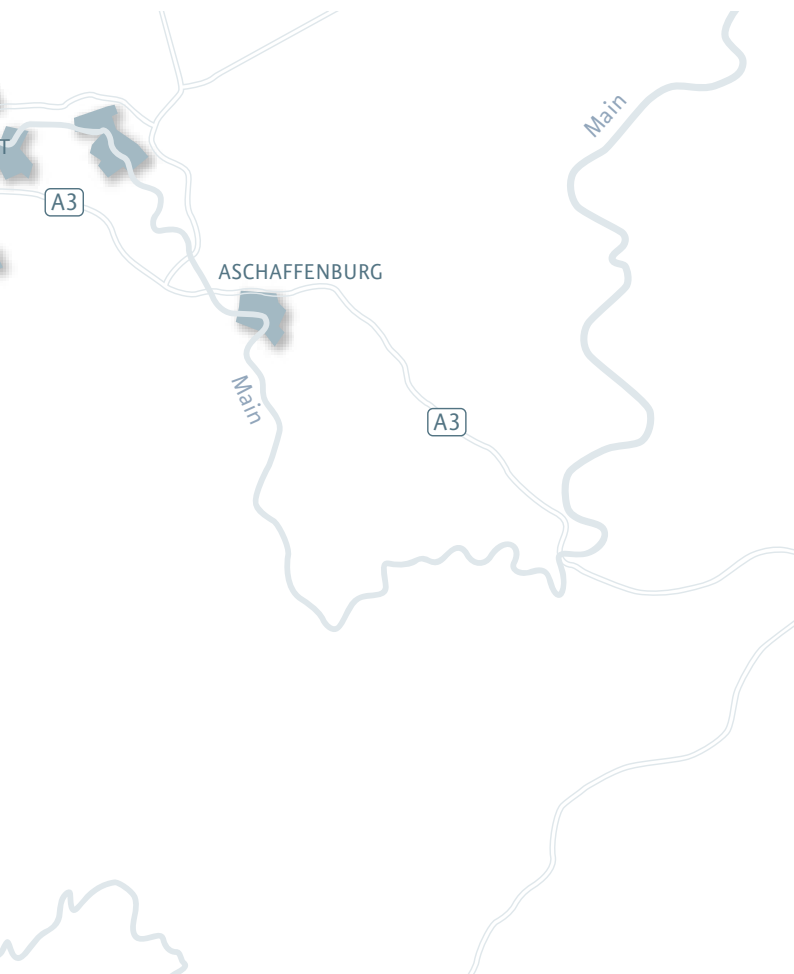
Posters will be presented in the Foyer of the Conference Hall during the Symposium. A special **POSTER SESSION** will be held on Tuesday, November 29, 12.00 - 12.45 h. During this time authors should be present for discussion at their posters.

- P27 RESEARCH OF MICROMORPHOLOGY'S IMPACT ON THE PROPERTIES OF GAS GENERATING AGENT**
Chen Fan, Li Xuming, Liu Wei, Yao Jun
Hubei Institute of Aerospace Chemotechnology, Xiangyang, PRC
- P28 RESEARCH ON LASER WELDING DEFECTS IN THE IGNITION TUBE OF INFLATOR**
Liu Wei, Chen Fan, Yao Jun
The 42nd Institute of the Forth Academy of CASC / Hubei Institute of Aerospace Chemotechnology, Xiangyang, PRC
- P29 PAST & FUTURE OF THE FUNCTIONAL SILICONE COATINGS FOR AIRBAGS**
M. Slaviero, P. Defaux, D. Djian
Bluestar Silicones, Saint-Fons, F
- P30 COMPUTATIONAL SIMULATION OF AIRBAG INFLATORS AND SYSTEMS**
I. Hoffman
Autoliv North America, Ogden, USA
- P31 AN EFFICIENT QUICK-STARTER APPLICATION FOR INTEGRATED SAFETY ANALYSIS**
M.G.A. Tijssens
TASS International, Rijswijk, NL
- P32 FULLY AUTOMATED APPLICATION MEASUREMENT ENVIRONMENT FOR AIRBAG SYSTEM ON CHIP (SOC)**
F.-C. Filipovici, A. Pirker-Fruehauf
Infineon Technologies AG, Villach, A
- P33 DUAL CHAMBERED PASSENGER AIRBAG PERFORMANCE IN PROTECTION OF VARIOUS OCCUPANTS IN POSITION AND OUT OF POSITION**
M.H. Rajani
Andisheh Industrial Group, Babolsar, IRN
- P34 TARGET ZERO**
A. Charles
ACE Consultancy, Winsford, GB

- P35 THE IMPACT OF MEGATRENDS ON PASSIVE SAFETY**
M. Seyffert, U. Class
ZF TRW, Alfdorf, D
- P36 STUDY OF USING COLD GAS SYSTEM SIMULATING PYRO-TECHNIC INFLATOR WITH ENERGY INJECTION METHOD**
D. Wang, C. Williams
Microsys Technologies Inc., Mississauga, CAN
- P37 IONIC COMPRESSORS AS A COMMERCIALISED PRODUCT**
M. Stefan
Linde Gas GmbH, Wien, A
- P38 GUANIDINE NITRATE GRANULA PROCESS ON INFLUENCE OF AUTOIGNITION MATERIAL**
Luo Yun-Qiang, Ruan Jia-Sheng, Zhang Ling, Fen Tao,
Yang Zhi-Xiong
Hubei Hangpeng Chemical Power Technology Co. Ltd.,
Xiangyang, PRC
- P39 GRANULA MANUFACTURE PROCESS ON INFLUENCE OF GAS GENERANT BURNING PERFORMANCE AT COLD TEMPERATURE**
Luo Yun-Qiang, Xia Qiang, Ruan Jia-Sheng, Zhang Ling, Fen Tao,
Zhang Jun
Hubei Hangpeng Chemical Power Technology Co. Ltd.,
Xiangyang, PRC







Getting to the Congress Center Rosengarten Mannheim

Travelling by car

From the A6 or A5 at the Mannheim or Heidelberg motorway intersection, continue towards „Mannheim-Mitte“. You will reach the Rosengarten and the Dorint Congress Hotel via the Augustaanlage.

Travelling by train

Mannheim is an ICE/IC junction station. There is a direct ICE connection from Mannheim to Basel, Berlin, Cologne, Düsseldorf, Frankfurt am Main, Frankfurt am Main Airport, Freiburg, Hamburg, Munich, Paris, Stuttgart and many other cities.

The Rosengarten is a five minute walk (walking towards the city centre) from the main railway station.

Anmeldung / Registration form

13th International Symposium and Exhibition
on Sophisticated Car Occupant Safety Systems

November 28-30, 2016
Mannheim, Germany

Company / Authority / Complete Address

Last name

First name

Title / Position

I will pay the registration fee upon
receipt of the invoice.

It is agreed that pictures taken during
this event may be published.

Signature

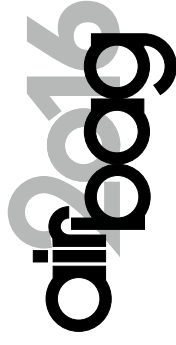
Fax +49 (0) 721 / 4640-120

Participation (please tick)

Welcome Reception *

Monday, November 28, 6.00 p.m.

* included in the registration fee



**Fraunhofer-Institut für
Chemische Technologie ICT
Attn. Manuela Wolff
P. O. Box 12 40
76138 Pfinztal
GERMANY**

**MUST BE PUT
INSIDE ENVELOPE**



13th International Symposium and Exhibition on Sophisticated Car Occupant Safety Systems

CONFERENCE MANAGEMENT

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EXHIBITION MANAGEMENT

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www.airbag2000plus.de