



Fraunhofer

Institut
Chemische Technologie

air2008
bag



PROGRAM

9th International Symposium
and Exhibition on Sophisticated
Car Occupant Safety Systems

Karlsruhe, Germany
Congress Center

2008, December 1 – 3



9th International Symposium and Exhibition on Sophisticated Car Occupant Safety Systems

Program Committee

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Karlsruhe, D



9th International Symposium and Exhibition on Sophisticated Car Occupant Safety Systems

Welcome

Sophisticated car occupant systems like airbags and belt restraint systems represent the most rapidly increasing market for safety devices in recent times. Although the benefits are well known to experts there is clearly a need for close cooperation between all interested parties.

The 9th Airbag Symposium in 2008 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 advanced car passenger safety systems on an impartial platform.

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

**Welcome again to Karlsruhe, Germany,
and the world of Airbag 2008.**

Jochen Neutz
Chairman of the Symposium

Registration

Please return the enclosed **registration form**. You will then receive an **invoice**.

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

*** up to November 10, 2008**

EURO 950,-- (incl. 19% VAT)

*** up to November 24, 2008**

EURO 1.050,-- (incl. 19% VAT)

Participation cannot be guaranteed for registrations arriving after November 24, 2008.

A fee of EURO 500,-- will be charged for cancellations after November 24, 2008. No-shows will be charged the complete fee.

Accommodation

will be managed by **HORE Hotel Reservation**, Weingartener Str. 70, D-76229 Karlsruhe, Phone (07 21) 48 23 56, Fax (07 21) 48 26 14 e-mail horehotelreservation@t-online.de An application form is enclosed.

Online reservation:

www.hore-hotel-reservation.de/airbag2008.html

Conference Office

is located in the **foyer of the Stadthalle** and may be reached **from December 1 to December 3** by

Phone (07 21) 37 20 - 44 43

or (07 21) 37 20 - 44 41

Fax (07 21) 37 20 - 59 50

(International access: +49)

Check In / Welcome Reception

Please check in at the conference office on **Monday, December 1 between 13.00 and 20.00 h**. All participants are cordially invited to the **Welcome Reception** in the foyer of the Stadthalle on **Monday, December 1, 18.00 - 20.30 h**.

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

Proceedings

One copy of the proceedings is **included** in the registration fee.

(Additional copies EURO 150,--, subscription price during the Symposium EURO 130,--)

ACS Industries, Inc.	Rhode Island, USA
Advanced Label Technologies B.V.	Utrecht, NL
apos GmbH & Co. KG	Hösbach, D
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Continental	Regensburg, D
Daimler AG	Sindelfingen, D
Electrovac curamik GmbH	Regensburg, D
ESI Engineering System International GmbH	Eschborn, D
Fraunhofer-Institut für Chemische Technologie ICT	Pfinztal, D
Gabel – M.E.C.A. GmbH & Co. KG Jinheng Airbag	Euskirchen, D Jinzhou, PRC
GSK InTec Co. Ltd.	Shengang Township, Taiwan, ROC
Hirtenberger Automotive Safety GmbH & Co KG	Hirtenberg, A
IEE S.A.	Contern, L
Indet Safety Systems a.s.	Vsetin, CZ
Infineon Technologies AG	Munich, D
INVISTA (Deutschland) GmbH	Oestringen D
iSi Automotive GmbH	Wien, A
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SEVA-TECHNOLOGIES	Mazeres, F
Takata-Petri AG	Aschaffenburg, D
TASS (TNO Automotive Safety Solutions)	Delft, NL
TechnologieRegion Karlsruhe GbR	Karlsruhe, D
TRW Automotive GmbH	Alfdorf, D
Valient Automotive Market Research	New York, USA
voestalpine HTI GmbH & Co. KG	Linz, A
Wehberg Safety GmbH	Lüdenscheid, D
Weil Engineering GmbH	Müllheim, D
Zodiac Automotive Division	Pusignan, F



Program

Monday, December 1, 2008

Tuesday, December 2, 2008

Monday, December 1, 2008

- 11.30 – 13.00 **Press Meeting (registered journalists only)**
- 13.00 **Opening of the Exhibition**
- 14.30 – 18.00 **Workshop »Igniter Technique«**
(Participation on separate invitation)
- 14.30 – 18.00 **Workshop »Airbag – Retten ohne Risiko?« für Rettungskräfte mit »Airbag-Update«, Einsatzberichten und Erfahrungsaustausch (in GERMAN only)**
POC: Rolf-Dieter.Erbe@berliner-feuerwehr.de
- 18.00 – 21.00 **Welcome Reception**
for all participants
(Symposium, Workshops, Exhibition)

Tuesday, December 2, 2008

Opening Session

- 9.30 – 9.45 **Welcome and Opening**
J. Neutz
Chairman of the Symposium
- 9.45 – 10.00 **Greeting Addresses**
- 10.00 – 10.30 **V 1 Key Lecture**
Upcoming Milestones in Automotive Safety
E. Frickenstein
BMW AG, München, D
- 10.30 – 11.00 **Coffee Break**

1. Session:

General Issues

Session Chair: Ulrich Tschäschke

Daimler AG, Sindelfingen, D

- | | | |
|----------------------|------------|--|
| 11.00 – 11.25 | V 2 | Performance of Frontal Airbags with Changes in Frontal Crash-Test Requirements
S. Ferguson
Ferguson International LLC, McLean, USA |
| 11.25 – 11.50 | V 3 | International Product Liability Law: New Challenges – Increased Criminal Liability, Group Actions and the Compelled Disclosure of Electronic Documents
T. Smith
Lungershausen & Smith, Böblingen, D |
| 11.50 – 13.00 | | Poster Session – see Poster Program –
Session Chair:
H. Spies, Ingenieurbüro Spies, Hohenwart, D
B. Adiprasito, Volkswagen AG, Wolfsburg, D
A. Heilig, TRW Automotive GmbH, Alfdorf, D |
| 13.00 – 14.30 | | Lunch Break |
| | | 2. Session:
R & D Challenges
Session Chair: Karl-Friedrich Ziegahn
Forschungszentrum Karlsruhe, Karlsruhe, D |
| 14.30 – 14.55 | V 4 | Challenges of China NCAP
Zhao Hang
China Automotive Technology & Research Center, Tianjin, PRC |
| 14.55 – 15.20 | V 5 | The Changing Outlook of Euro NCAP
M. van Ratingen
Euro NCAP, Brussels, B |
| 15.20 – 15.45 | V 6 | Results from Real World Accident Studies and their Influence on Occupant Protection Development
T. Blaas, R. Schöneburg
Daimler AG, Sindelfingen, D |
| 15.45 – 16.15 | | Coffee Break |

3. Session:

Gas Generators

Session Chair: Stefan Brock

Autoliv B.V. & Co. KG, Dachau, D

- | | | |
|----------------------|------------|---|
| 16.15 – 16.40 | V 7 | Polymer-bonded Propellant Systems Allow Optimal Adaptation to Customer's Needs
M. Ramin, J. Rebetez,, A. Skriver
Nitrochemie Wimmis AG, Wimmis, CH |
| 16.40 – 17.05 | V 8 | Shockwave Characterisation, Parameter Studies and Visualization for a Cold Gas Curtain Inflator
H. Kratz
Takata Petri AG, Aschaffenburg, D |
| 17.15 – 17.45 | | Awards |
| 18.00 | | Evening Reception |

Fax: +49 - (0) 7 21 / 4 6 4 0 - 1 20

**Fraunhofer-Institut für
Chemische Technologie • ICT
Manuela Wolff
P. O. Box 1240**

D - 76318 Pfinztal



Last name

First name

Title / Position

Registration fee must be paid upon receipt of the invoice

Signature

Company / Authority / Complete Address

Participation (please tick)



Welcome Reception

Monday, Dec. 1, 6.00 p. m.
(incl. in the registration fee)

Phone No.

Fax No.

e-mail

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

Fax: +49 - (0)7 21- 46 40 - 1 20

Accommodation

9th International Symposium and Exhibition on Sophisticated Car Occupant Safety Systems
 December 1 - December 3, 2008 • Karlsruhe, Germany

Name _____

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Please reserve Hotel (All rooms with bath/showerWC, incl. breakfast.):

A	****	Dorint Novotel Kongress	EZ/SGL 154,-- Euro	DZ/DBL 193,-- Euro	0,0 km
B	****	Renaissance	EZ/SGL 135,-- Euro	DZ/DBL 153,-- Euro	0,5 km
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C2	****	Schlosshotel Classic	EZ/SGL 115,-- Euro	DZ/DBL 160,-- Euro	1,0 km
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D2	****	Queens Standard	EZ/SGL 140,-- Euro	DZ/DBL 167,-- Euro	0,2 km
E	****	Residenz	EZ/SGL 119,-- Euro	DZ/DBL 159,-- Euro	1,0 km
F	****	Santo	EZ/SGL 115,-- Euro	DZ/DBL 120,-- Euro	0,8 km
G	***	Alfa	EZ/SGL 79,-- Euro	DZ/DBL 102,-- Euro	0,8 km
H	****	Rio Komfort	EZ/SGL 104,-- Euro	DZ/DBL 124,-- Euro	1,5 km
I1	****	Kübler Alivitalis	EZ/SGL 105,-- Euro	DZ/DBL 140,-- Euro	1,5 km
I2	***	Kübler Komfort	EZ/SGL 92,-- Euro	DZ/DBL 115,-- Euro	1,5 km
I3	**	Kübler Standard	EZ/SGL 81,-- Euro	DZ/DBL 105,-- Euro	1,5 km
I	***	Ambassador	EZ/SGL 79,-- Euro	DZ/DBL 99,-- Euro	0,8 km
K	**	Royal	EZ/SGL 80,-- Euro	DZ/DBL 110,-- Euro	0,4 km

If accommodation not available in desired category, please reserve category:

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Weingartener Str. 70
D - 76229 Karlsruhe

Platz für Visitenkarte / Personal card

4. Session:

Sensor Systems and Electronics

Session Chair: Michael Strugala

Robert Bosch GmbH, Stuttgart, D

- 9.00 – 9.25** **V 9** **New Sensor Systems – Virtual Bumpers around the Car**
H. Spies, M. Spies
Ingenieurbüro Spies, Hohenwart, D
- 9.25 – 9.50** **V 10** **Standardization of Airbag Electronics, An Innovative Challenge**
T. Glaser, A. König, A. Gsell
Continental Chassis & Safety, Regensburg, D
- 9.50 – 10.15** **V 11** **The Safety Domain and the E/E Architecture of Future Vehicles**
M. Bunse, M. Wellhöfer, I. Durdevic, R. Kornhaas, S. Mischo
Robert Bosch GmbH, Stuttgart, D
- 10.15 – 10.45** **Coffee Break**

5. Session:

Development and Testing

Session Chair: Michael Niess

BMW AG, München, D

- 10.45 – 11.10** **V 12** **Characterization and Evaluation of Frontal Crash Pulses**
L. Kübler, S. Gargallo
TRW Automotive GmbH, Alfdorf, D
- 11.10 – 11.35** **V 13** **Testing of Pre-Crash-Systems with Extremely Low False Alarm Rates**
N. Waldt, M. Gonter, M. König, M.-M. Meinecke, T. Wohllebe
Volkswagen AG, Wolfsburg, D
- 11.35 – 12.00** **V 14** **Analytical Investigation of Physical Processes for the Load Case Out of Position on Driver Side**
H. Hofmann, S. Kutschenreuter
Takata Petri AG, Berlin, D
- 12.00 – 13.30** **Lunch Break**

6. Session:

Simulation

Session Chair: Christian Schramm

AUDI AG, Ingolstadt, D

- | | | |
|----------------------|-------------|---|
| 13.30 – 13.55 | V 15 | Relevance of Fabric Modelling for Simulation of Airbag Deployment
H. Baldauf
BMW Group, München, D
A. Hirth
Daimler AG, Sindelfingen, D
R. Luijkx
Audi AG, Ingolstadt, D
R. Remensperger
Porsche AG, Weissach, D
B. Beesten, H. Dörnhoff
Volkswagen AG, Wolfsburg, D |
| 13.55 – 14.20 | V 16 | Usage of FEA Methods in Order to Ensure Integration and Application in the Restraint System Control in Early Development Phases
A. Neubohn
Volkswagen AG, Wolfsburg, D
C. Kärner, O. Körner, J. Kolatschek
Robert Bosch GmbH, Stuttgart, D |
| 14.20 – 14.50 | | Coffee Break |

7. Session:

Future of Occupant Protection

Session Chair: Michael Bischoff

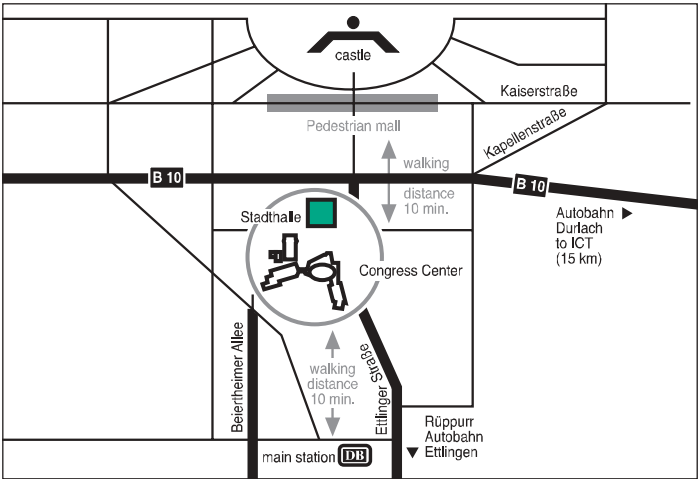
Takata Petri AG, Aschaffenburg, D

- | | | |
|----------------------|-------------|--|
| 14.50 – 15.15 | V 17 | Application of Pyrotechnic Gas Generators in Sheet Metal Forming Technologies
J. Neutz, H. Ebeling
Fraunhofer ICT, Pfinztal, D
S. Scheffler
Fraunhofer IWU, Chemnitz, D |
| 15.15 – 15.40 | V 18 | Application of Advanced Telematics Data to Improve Post-Crash Care for Drivers and Passengers
G. T. Bahouth
Pacific Institute for Research and Evaluation, Calverton, USA
J. S. Augenstein
William Lehman Injury Research Center, USA
K. H. Digges
The George Washington University, USA
S. Rauscher
BMW AG, München, D |
| 15.40 – 16.05 | V 19 | Pedestrian Detection and Warning, a new Generation of Night Vision System
M. Kozyreff
Autoliv Inc., Vargarda, SE |
| 16.05 – 16.15 | | Closing Remarks
J. Neutz
Fraunhofer ICT, Pfinztal, D |

Posters will be presented in the Foyer of the Conference Hall during the Symposium.
A special POSTER SESSION will be held on Tuesday, December 2, 11.50-13.00 h.

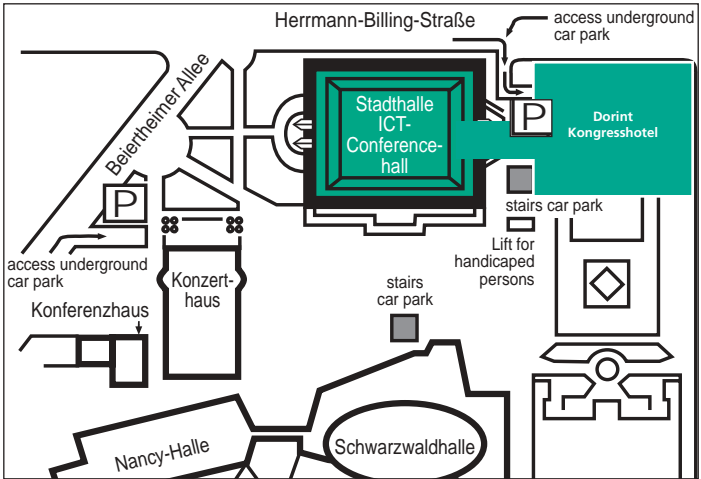
- P 20** **Alternative Airbag Evaluation Methodology through Cold Gas Inflation System**
P.M. Slaats, A.J. Pitonyak, P. Wipasuramonton, T. Hunter, M. Rains
Takata Holdings Inc., USA
D. Wang, C. Williams, C. Miller
Microsys Technologies Inc., CAN
- P 21** **Folding of Complex 3D-Airbags with Numerical Simulation Using PAM-CRASH2G**
C. Thibaud
ESI Engineering System International GmbH, Eschborn, D
- P 22** **Pyrotechnic Articles for Vehicles – Forthcoming European Union Certification Requirements**
R.K. Wharton
Health and Safety Laboratory, Buxton, GB
- P 23** **Analysis of Pedestrian Injuries Using Deformable Model**
Shang-Wen Wang, Liang-Yann Yuan
Chung-Shan Institute of Science and Technology, Taiwan, ROC
Tso-Liang Teng
Da-Yeh University, Taiwan, ROC
- P 24** **An Optimized Airbag System for Submunition Dispersion**
Hyun J. Ko, Bong Y. Park, Dae G. Kim
Agency for Defense Development, Daejeon, KOR
- P 25** **Selecting Silicone Materials for Cushions Assembly**
P. Defaux, B. Bordes
Bluestar Silicones, Saint Fons, F

- P 26** **Performance Characteristics of Silicone Seam Sealed Sewn Systems**
W.R. Blackwood
Dow Corning, Midland, USA
- P 27** **Why Control Air-Bags?**
A.F. Charles
ACE Consultancy, Winsford, GB
- P 28** **Estimation of Human Behaviour during Pre-Crash Phase Using a Driving Simulator. Towards a Reduction of Injuries by Means of Bonded Airbags**
A. Dubrulle, F. Robache, H. Morvan, P. Drazetic
University of Valenciennes, F
J.M. Obadia, B. Bouquier
Zodiac Automotive Division, Pusignan, F
- P 29** **withdrawn**
- P 30** **KP200 - Advanced Pressure Sensor IC for Side Crash Detection**
M. Brauer
Infineon Technologies AG, München, D
- P 31** **Infineon Restraints Solution**
F. Öberg, T. Dittfeld
Infineon Technologies AG, München, D
- P 32** **Lighten Modules with SEVA Inflator**
P.-P. Cord
SEVA Technologies, Mondouzil, F
- P 33** **Bonnet Active Actuator for Pedestrian Protection**
E. Borg, E. Giraud, F. Marlin
SNPE, St. Medard en Jalles, F



Karlsruhe is located approx. 120 km (80 miles) south of Frankfurt/Frankfurt International Airport just beside the Autobahn A5, and is also connected to Frankfurt via express train (IC or ICE).

*Other convenient airports are:
Strasbourg (F) (approx. 100 km) and Stuttgart (D) (approx. 90 km)*



By tram:

from the

Linie / route

- Main station (Hauptbahnhof) S 1, S 4, S 11, 2
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By car:

Follow direction signs to the »Kongreßzentrum«



Karlsruhe is located approximately 1 hour south of Frankfurt Airport via motorway/highway (Autobahn) or express train (IC or ICE).



Conference Management

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Attn. Manuela Wolff
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Federal Republic of Germany

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E-mail: manuela.wolff@ict.fraunhofer.de
Web site: www.ict.fraunhofer.de
www.airbag2000plus.de

Exhibition Management

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