

## SYMPOSIUM „MAGNETORESISTIVE SENSORS AND MAGNETIC SYSTEMS“

Research in the field of magnetoresistive (MR) sensor technology has never been so intense as today. Not only the broadening range of applications for MR sensors, but also the rapid pace of technological development are the basis for a steadily increasing acceptance of this technology.

Information about the latest technical advances in the field, as well as the latest applications is essential know-how, both for companies that wish to implement this unique technology in their new products and for research institutions engaged in this dynamic area of research. The MR-Symposium, which takes place this year for the 10<sup>th</sup> time, has assumed the role as the main international platform for presenting the latest technological developments and leading applications in the field of MR technology and magnetic systems.

### OBJECTIVE OF THE SYMPOSIUM

A hand-picked selection of experts from around the world, including the recipient of the 2007 Nobel Prize for Physics, Professor Peter Grünberg, who will give an opening speech, will provide first-hand information on the latest research results and newest applications of magnetoresistive technology. The presentations cover fundamental technological advances, as well as a wide range of application examples for MR sensors, including medical technology, bioanalytical equipment, material testing, industrial automation and automotive applications. In addition to this there are presentations covering related subjects, such as sensor design methods, crossfield sensitivity and its compensation as well as reliability of packaging of sensor devices.

## 10<sup>TH</sup> MR-SYMPOSIUM – REGISTRATION

### HOW TO REGISTER

Please register by post, fax or internet. Your registration is requested by **18<sup>th</sup> March 2009**. If you cancel your participation after **15<sup>th</sup> March 2009** a refund of the participation fee is not possible.

**Via post** | Sensitec GmbH  
Ellen Slatter  
Georg-Ohm-Str. 11  
35633 Lahnu  
Germany

**Via telefax** | to +49 (0) 6441-9788-17  
For fax reply form, see rear page of the invitation letter.

**Via internet** | Online registration via [www.sensitec.com](http://www.sensitec.com)

**Fee** | With early bird discount: **Euro 480,-** plus VAT  
After 3<sup>rd</sup> March 2009: **Euro 530,-** plus VAT

The fee includes lunch and refreshments on both days, dinner incl. special program, visit to the VISEUM, and conference transcript. The invoice will be issued after receipt of registration.

### YOUR CONTACT

**Organisation** | Ellen Slatter, +49-6441-97 88-16  
ellen.slatter@sensitec.com

**Techn. matters** | Dr. Joachim Hölzl, +49-6441-97 88-46  
joachim.hoelzl@sensitec.com

**Location** | Stadthalle Wetzlar Kongress- und Kultur-Zentrum, Brühlsbacherstr. 2b, 35578 Wetzlar (for route description, please refer to <http://www.stadthalle-wetzlar.de>)

**Hotel** | Please make your own hotel reservation. The following hotels provide a limited contingent of rooms with special rates (reference: Sensitec):

**Hotel Wetzlarer Hof**  
+49 (0)6441-908-0 (till 10<sup>th</sup> March 2009)

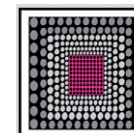
**Hotel Mercure Wetzlar**  
+49 (0)6441-417-0 (till 9<sup>th</sup> March 2009)

**Hotel Best Western Wetzlar**  
+49 (0)6441-906-0 (till 9<sup>th</sup> March 2009)

**Special program** | On 31<sup>st</sup> March 2009 we invite you to take part in a very interesting tour through the VISEUM, a nearby museum for precision engineering and optics. As this is an option, please indicate your participation accordingly when registering.

10<sup>th</sup> Symposium  
**Magnetoresistive Sensors  
and Magnetic Systems**  
31<sup>st</sup> March and 1<sup>st</sup> April 2009 in Wetzlar

10<sup>th</sup> MR Symposium  
Wetzlar 2009



**GROUP OF PARTICIPANTS**

The Symposium is addressed to technical experts and managers in the automotive, industrial automation, medical technology, materials testing and consumer sectors as well as other industries, who wish to become familiar with MR technology and magnetic systems.

**PROGRAM**

31<sup>st</sup> March 2009

Time	Name	Institution	Title
10.00 - 10.10	<b>Karl-Heinz Lust</b>	Sensitec GmbH	Welcome
10.10 - 10.15	<b>Prof. Dr. Peter Grünberg</b>		
10.15 - 10.45	<b>Dr. Bruno Weisshaupt</b>	origo, Frauenfeld (Switzerland)	systemInnovation - the disruptive way to the future
10.45 - 11.15	<b>Prof. Dr. Pavel Ripka</b>	Czech Technical University, Prague (Czech Republik)	Crossfield Sensitivity in AMR Sensors and its Compensation
11.15 - 11.45	<b>Prof. Dr. Des J. Mapps</b>	University of Plymouth (UK)	Sensing Bio-Medical Magnetic Fields
11.45 - 12.15	<b>Professor Dr. Russell Cowburn</b>	Imperial College London (UK)	Magnetic Nanowires for Information Storage and Processing
12.15 - 13.15	Lunch		
13.15 - 13.45	<b>Dr. Mathias Kläui</b>	University of Konstanz (Germany)	Concepts for Domain Wall Motion in Nano-scale Ferromagnetic Memory Elements

31<sup>st</sup> March 2009

Time	Name	Institution	Title
13.45 - 14.15	<b>Dr. Hendryk Richert</b>	Innovent e.V., Jena (Germany)	Magnetic Monitoring - State of the Art Navigation for Intelligent Endoscopic Capsules
14.15 - 14.45	<b>Dr. Claude Fermon</b>	IRAMIS/SPEC, CEA, Gif-sur-Yvette (France)	Superconducting-Magneto-resistive Hybrid Sensors for Brain Imaging and Low Field MRI
14.45 - 15.15	<b>Prof. Dr. Meinhard Schilling</b>	Technical University Braunschweig (Germany)	New Developments of Electromagnetic Sensors for Biomedical Applications
15.15 - 15.45	Coffee Break		
15.45 - 16.15	<b>Professor Dr. Andreas Hütten</b>	University of Bielefeld (Germany)	From the Nobel Prize in Physics in 2007 Towards Life Science Applications
16.15 - 16.45	<b>Beatrice Negulescu</b>	Université Henri Poincaré, Nancy (France)	MTJ Linear Field Sensor for Automotive and Industrial Applications
16.45 - 17.15	<b>Prof. Dr. Marc v. Kreutzbruck</b>	Federal Institute for Materials Research and Testing (BAM), Berlin (Germany)	GMR Sensors for Nondestructive Testing – Recent Developments Sensor based Magnetic Flux Leakage and Eddy Current Testing
ca. 17.30	Viseum		

1<sup>st</sup> April 2009

Time	Name	Institution	Title
8.15 - 8.30	<b>N.N.</b>	Federal Ministry of Education and Research, Bonn (Germany)	Welcome
8.30 - 9.00	<b>Dr. Roland Mattheis</b>	Institute of Photonic Technology (IPHT), Jena (Germany)	Quad16: The New Generation of Multiturn Counters
9.00 - 9.30	<b>Uwe Loreit</b>	Sensitec GmbH, Lahnau (Germany)	New Concepts for GMR Spin Valve Sensors
9.30 - 10.00	<b>Dr. Bernhard Wunderle</b>	Fraunhofer Institute for Reliability and Microintegration (IZM), Berlin (Germany)	Reliability Prediction for Microelectronic Packaging Concepts
10.00 - 10.30	Coffee Break		
10.30 - 11.00	<b>Dr. Wolfram Malzfeldt</b>	Bourns, Inc., Janesville (USA)	Design for Reliability of Automotive MR Sensor Applications
11.00 - 11.30	<b>Heiko Pries</b>	Volkswagen AG, Wolfsburg (Germany)	Giant-Magnetic-Resistance – An Application in Nondestructive Testing
11.30 - 12.00	<b>Christophe Duret</b>	SNR Bearings, Annecy (France)	From Bearing to Sensor Bearing : 25 years of Magnetic Innovations at SNR
12.00 - 12.30	<b>Yves Dordet</b>	Continental Automotive France SAS, Toulouse (France)	Application of MR Bridge for Brushless Motor Management in Electrically Assisted Steering

1<sup>st</sup> April 2009

Time	Name	Institution	Title
12.30 - 13.30	Lunch		
13.30 - 14.00	<b>Dr. Christian Schott</b>	Melexis Technologies, Bevaix (Switzerland)	Comparing Magnetic Sensor Technologies - The Relative Advantages of AMR and Hall-based Magnetic Sensors
14.00 - 14.30	<b>Dr. Rolf Slatter</b>	Sensitec GmbH, Lahnau (Germany)	Innovative MR-Solutions for Encoder and Motor-Feedback-Systems
14.30 - 15.00	<b>Christoph Kleye, HY-LINE Sensor-Tec in the name of Jay Brown, NVE</b>	NVE Corp., Eden Prairie (USA)	Different GMR/TMR Devices and Integration Advancements
15.00 - 15.15	Coffee Break		
15.15 - 15.45	<b>Yongyao Cai</b>	MEMSIC Inc., Andover (USA)	An Integrated Tri-Axis MR Sensor for Mobile Application
15.45 - 16.15	<b>Prof. Dr. Holger Reinecke, Claudia Kallenbach</b>	HSG-IMIT e.V., Villingen-Schwenningen (Germany)	Fabrication of Magnetic Measuring Scales by Photolithography
16.15 - 16.45	<b>Sebastian Weber</b>	Sensitec GmbH, Lahnau (Germany)	The New AFF755 High Resolution AMR Field Sensor and its Applications