

## 14<sup>th</sup> Symposium „Magnetoresistive Sensors and Magnetic Systems“

It is a very exciting time to work in the field of „magnetism“ and particularly with respect to magnetic sensors. After „mechanisation“ and „informatisation“ experts are predicting a third technological wave based on „sensorisation“. Be it Internet of Things, Cyber-Physical Systems or Industry 4.0, all of them rely on a dramatic increase in the application of sensors. Magnetic sensors play an especially important role here, be it for the measurement of movement, orientation, electrical current or magnetic fields. Completely new applications are emerging. In order to fulfil these requirements a close cooperation between science and industry is necessary. The MR-Symposium provides the ideal platform for an update regarding the latest developments. Register – to be up to date.

### Focus of the Symposium

The symposium serves as a forum for the exchange of innovative ideas and practical experience with magnetoresistive technology among experts from research institutes as well as practitioners from a variety of different application areas including the automotive industry, industrial automation, robotics, aerospace, NDT or the bio-analytical sector. The presentations cover also fundamental technological advances, e. g. in TMR sensor technology.

## REGISTRATION

### HOW TO REGISTER

Please register by post, fax or internet. Your registration is requested **by 10<sup>th</sup> March 2017**. If you cancel your participation after 14<sup>th</sup> March 2017 a refund of the fee is not possible.

**Via post** Sensitec GmbH  
Ellen Slatter  
Georg-Ohm-Straße 11  
35633 Lahnau  
Germany

**Via telefax** to +49 6441 9788-17  
For fax reply form, please refer to the rear page of the invitation letter.

**Via internet** Online registration via  
[www.xmr-symposium.com](http://www.xmr-symposium.com)

**Fee** With early bird discount: Euro 550 plus VAT  
After 20<sup>th</sup> February 2017: Euro 620 plus VAT  
Student fee: Euro 250 plus VAT

On receipt of registration you will get a confirmation by mail. The invoice will be sent by post to your postal address. **Please note that we cannot accept payment by credit card at the event itself.** So please ensure that payment is made in advance.

**Important information** The fee includes conference proceedings, lunch and refreshments on both days as well as dinner incl. special programme. The invoice for advance payment will be issued after receipt of registration. Please note that during the event photographs or video material will be created which might be used for further publications.

### YOUR CONTACT

Sensitec GmbH is organizer of the MR-Symposium.  
[www.sensitec.com](http://www.sensitec.com)

**Organisation** Ellen Slatter, +49 6441 97 88-16  
[ellen.slatter@sensitec.com](mailto:ellen.slatter@sensitec.com)

**Technical matters** Dr. Joachim Hölzl, +49 6441 97 88-46  
[joachim.hoelzl@sensitec.com](mailto:joachim.hoelzl@sensitec.com)

**Location** Stadthalle Wetzlar  
Kongress- und Kultur-Zentrum  
Brühlsbachstraße 2b  
35578 Wetzlar (for route description, please refer to <http://www.xmr-symposium.com>)

**Hotel** Please make your own hotel reservation. The following hotels provide a limited contingent of rooms (reference: MR-Symposium Sensitec):

**Hotel Wetzlarer Hof**  
+49 6441 908-0 (until 20<sup>th</sup> February 2017)

**Hotel Bürgerhof**  
+49 6441 903-0 (until 27<sup>th</sup> February 2017)

**Michel Hotel Wetzlar**  
+49 6441 417-0 (until 10<sup>th</sup> February 2017)

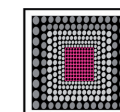
**Dinner and special programme** On 21<sup>st</sup> March 2017 we invite you to join us for dinner including special evening programme. As this is an option, please indicate your participation on the registration form accordingly when registering.



## 14<sup>th</sup> Symposium

## Magnetoresistive Sensors and Magnetic Systems

21<sup>st</sup> and 22<sup>nd</sup> March 2017 in Wetzlar



14<sup>th</sup> Symposium „Magnetoresistive Sensors  
and Magnetic Systems“

WHO SHOULD ATTEND

The MR-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 are involved in the design, fabrication, testing, qualification and research of MR technology and magnetic systems and who wish to enhance their knowledge.

The conference covers subjects like:

- New XMR technologies sensor concepts
- Signal conditioning
- Innovative applications
- New project results
- Sources of project funding
- New magnet technologies
- and many others

Register now under  
[www.xmr-symposium.com](http://www.xmr-symposium.com)

Time	Topic	Speaker
<b>Tuesday, 21<sup>st</sup> March 2017</b>		
10.00 - 10.15	<b>Welcome and introduction</b>	Rolf Slatter, Sensitec GmbH
10.15 - 10.45	<b>Sensors 4.0 – Smart sensors and measurement technology enable Industry 4.0</b>	Andreas Schütze, University Saarland
10.45 - 11.15	<b>Wireless position measuring in linear guides using integrated TMR sensors</b>	Ralf Lindemann, NTN-SNR Wälzlager GmbH
11.15 - 11.45	<b>Modular sensor systems for real time process control and smart condition monitoring using XMR technology</b>	Nicolai Helwig, University of Saarland
11.45 - 12.15	<b>Robust wear-detecting sensor concepts to realize innovative services and availability-oriented business models in capital good industry</b>	Timo Wiegel, Technical University Kaiserslautern
<b>12.15 - 13.15 Lunch</b>		
13.15 - 13.45	<b>Dual AMR motor position sensor for safety critical applications</b>	Enda Nicholl, Analog Devices International, IE
13.45 - 14.15	<b>A CMOS-integrated sensor level self-x-feature realization for XMR sensors and its use potential for higher-level intelligent condition monitoring and system healing</b>	Andreas König, Technical University Kaiserslautern
14.15 - 14.45	<b>Integrated signal conditioning for XMR sensors</b>	Joachim Quasdorf, IC Haus GmbH
14.45 - 15.15	<b>nCapsulate: a functional packaging solution for your MR system</b>	Ignas van Dommelen, Sencio Packaging Center, NL
<b>15.15 - 15.45 Coffee break</b>		

Time	Topic	Speaker
<b>Tuesday, 21<sup>st</sup> March 2017</b>		
15.45 - 16.15	<b>From mine to magnet - Raw materials processing of rare earth permanent magnets</b>	Bernd Grieb, Magnequench GmbH
16.15 - 16.45	<b>Higher design flexibility and better accuracy using optimal magnetic scales</b>	Torsten Becker, Bogen Electronic GmbH
16.45 - 17.15	<b>Current measurement with special TMR Sensors from Sinomags</b>	Jianguo Wang, Sinomags Technology Co. Ltd., CN
<b>19.00 Conference dinner and evening show in town hall. Please indicate your participation on the registration form.</b>		

Time	Topic	Speaker
<b>Wednesday, 22<sup>nd</sup> March 2017</b>		
8.30 - 9.00	<b>German framework programme for research and innovations including international initiatives (ECSEL, PENTA)</b>	Andreas Berns, VDI/VDE Innovation + Technik GmbH
9.00 - 9.30	<b>Understanding magnetic sensor operation by direct microscoping imaging</b>	Mathias Kläui, University Mainz
9.30 - 10.00	<b>Temperature dependence of AMR and GMR sensor properties</b>	Felix Nording, Technical University Braunschweig
<b>10.00 - 10.30 Coffee break</b>		
10.30 - 11.00	<b>New generation 3D magnetometer for novel applications on portable devices</b>	Max Lai, iSentek Technology Inc., TW
11.00 - 11.30	<b>Highly-integrated rotor position sensors for e-motors</b>	Michael Ludwig, TE Connectivity Ltd.

Time	Topic	Speaker
<b>Wednesday, 22<sup>nd</sup> March 2017</b>		
11.30 - 12.00	<b>Magnetoresistive sensors for biological applications</b>	Todd Klein, ZeptoLife Technology LLC, USA
12.00 - 12.30	<b>Development of a magneto-resistive angular position sensor for space mechanisms</b>	Tilo Schmidt, Hoch Technologie Systeme GmbH
<b>12.30 - 13.30 Lunch</b>		
13.30 - 14.00	<b>Application of magnetoresistive sensors in neuronal bridge monitoring system</b>	Oliver Schneider, Pötzl Ingenieure GmbH
14.00 - 14.30	<b>AMR based detection of rail vehicle</b>	Rocco Holzhey, Innovent e. V.
14.30 - 15.00	<b>GMR sensor arrays for high spatial resolution testing in NDE applications</b>	Matthias Pelkner, Bundesanstalt für Materialforschung und -prüfung (BAM)
<b>15.00 - 15.15 Coffee break</b>		
15.15 - 15.45	<b>Position measuring at variable area flowmeters with AMR angle sensors</b>	Jochen Friderich, Krohne Messtechnik GmbH
15.45 - 16.15	<b>Ultra-flexible, stretchable and printed GMR sensors</b>	Michael Melzer, IFW Dresden
16.15 - 16.45	<b>Stray fields and magnetic position sensors</b>	Marcel Urban, AMS AG, AT
16.45 - 17.00	<b>Outlook and closing remarks</b>	Rolf Slatter, Sensitec GmbH