

The XV European Magnetic Sensors
and Actuators Conference



Program

Monday, July 6

Auditorium Building
Eindhoven University of Technology

14:00	Visit to the labs: Physics of Nanostructures at TU/e
-	
16:00	Registration & Welcome Reception
-	
18:00	

Tuesday, July 7

Senaatszaal, Auditorium Building

08:00	Registration & Welcome Coffee	
09:00	Opening Session	
09:15	AI-aided flexible, printable, and eco-sustainable magnetoelectronics for smart skins, smart textiles, and soft-bodied robots	Denys Makarov , <i>Helmholtz-Zentrum Dresden-Rossendorf</i>
09:45	Design optimization of magnetic tunnel junctions-based sensors for picotesla detection	Lucia Risoli , <i>SPINTEC and University Grenoble Alpes CNRS</i>
10:00	Very long-term magnetic stability: On the path to identify the output very slow drift observed in PHMR sensor.	DA Bown'Fèrèma Erika , <i>Normandie University UNICAEN</i>
10:15	Exploring optical methods for reprogramming spintronic sensors	Floris Van Riel , <i>Eindhoven University of Technology</i>
10:30	Coffee Break	
11:00	Computational tools for the design and optimization of sensors and actuators	Manfred Kaltenbacher , <i>TU Graz</i>
11:30	AI-Driven Modeling of Modulated Magnetolectric Sensors	Ari A. Ahmad , <i>Kiel University</i>
11:45	Simulation and Optimization of a Dual Halbach Permanent-Magnet Field Source	Cristian Musuroi , <i>Transilvania University of Brasov</i>

12:00	Non-Destructive Analysis of Magnetic Layer Properties of Encoders using Simulation-Based Hysteresis Modeling	Florian Slanovc , <i>Silicon Austria Labs</i>
12:15	Analytical-Numerical Model for Eddy Current Analysis in Magnets, Applied to an Electromagnetic MRI-Compatible Actuator	Zoubida Belli , <i>Jijel University</i>
12:30	Lunch & Poster Session	
13:30	Poster Session	
14:30	Integrated micro-magnets: enabling the next generation of MEMS and sensors	Nora M. Dempsey , <i>University Grenoble Alpes, CNRS</i>
15:00	Magnetic MEMS for reconfigurable magnonic devices	Riccardo Bertacco , <i>Politecnico di Milano</i>
15:15	Exchange-Bias SAW Sensors for Zero-Bias Field Operation	Felix Weisheit , <i>Kiel University</i>
15:30	Real-time monitoring of viscosity and density with a magnetoelastic sensor	Raquel Loriente , <i>University Complutense of Madrid</i>
16:00	Coffee Break	

Special Session with Industry

16:30	Introduction	EMSA 2026 Chairs
16:35	Casimir Institute	Bart Smolders , <i>Eindhoven University of Technology</i>
16:50	Technological advances and challenges in Infineon's TMR sensors	Giovanni Masciocchi , <i>Infineon Technologies AG</i>
17:10	Magnetization technology for high precision magnetic encoder scales	Rolf Slater , <i>ITKNet</i>
17:30	Cross field influences for 3D magnetoresistive sensing	Andreas Kehlberger , <i>Sensitec GmbH</i>
17:50	Ion Beam Irradiation in the development of xMR sensors	Noël Montblanc , <i>Spin-Ion Technologies</i>
18:10	BMM350, A Monolithically Integrated TMR 3-Axis Magnetometer for Consumer Electronics Applications	Tiago Costa , <i>Bosch Sensortec</i>
18:30	Development of Shape-Memory Functionality in Ni-Fe-Ga Microwires	Martin Eliáš , <i>RV Magnetics</i>

Wednesday, July 8

Senaatszaal, Auditorium Building

08:00	Registration & Welcome Coffee	
09:00	Magnetic actuation for biomedical applications	Jaap M.J. den Toonder , <i>Eindhoven University of Technology</i>
09:30	Spintronics sensor for neuronal activity detection	Myriam Pannetier-Lecoeur , <i>Université Paris-Saclay, CEA</i>
09:45	Programmable Magneto-Active Melt Electrowritten Fibers for Skeletal Muscle Engineering	Essa Al-jehani , <i>Eindhoven University of Technology</i>
10:00	Magnetolectric Laminates Based on PVDF and Fe-Si-B Amorphous Ribbons for Sensing and Cellular Stimulation	Anastasia Railean , <i>National Institute for Research and Development for Technical Physics</i>
10:15	A Pickup Coil-Free Inductive Magnetometer for Bulk Magnetic Samples	Sofía Menéndez , <i>Universidad de Oviedo</i>
10:30	Coffee Break	
11:00	Integrated Broadband Current Sensing: Circuit Design and Limitations	Marco Crescentini , <i>University of Bologna</i>
11:30	A universal approach for field shaping of wafer integrated PowderMEMS [®] micromagnets for highly miniaturized back-biased CMOS Hall sensors	Ole Behrmann , <i>Fraunhofer-Institute for Silicon Technology ISIT</i>
11:45	Fabrication of sub-mm NdFeB micromagnets via laser-micromachining suitable for application in magnetic MEMS devices	Stefano Lumetti , <i>Silicon Austria Labs GmbH</i>
12:00	Improving Metal-Semiconductor Contact Resistance in Extraordinary Magneto-resistive Sensors	Sreejith Sasi Kumar , <i>Technical University of Denmark</i>
12:15	BIRD: A Current-readout CMOS chip with a 1 μ T Offset (3σ) using the Spinning-Voltage technique for internal Si and external GaN Hall-plates	Floris Van Mourik , <i>Delft University of Technology</i>
12:30	Lunch & Poster Session	
13:30	Poster Session	
14:30	Magnetometry to unveil fundamental questions, from the moons formation to habitability zones	Marina Díaz Michelena , <i>Space Magnetism Area, INTA</i>

15:00	Geometry comparison of offset, sensitivity, and noise of AlGaIn/GaN Hall-effect sensors in GaN-on-SOI technology	Stephen Heck , <i>Delft University of Technology</i>
15:15	Multifunctional High-Resolution Flexible Elliptical Planar Hall Effect Sensors for Magnetometry and Strain Sensing	Daniel Lahav , <i>Bar-Ilan University</i>
15:30	Macrospin toy model program as a help for magnetic magnetoresistive sensor stack prediction	Aur�lie Solignac , <i>Universit� Paris-Saclay, CEA</i>
16:00	Coffee Break	
16:30	Porous polymer sponge and magnetic nanoparticles: a magneto-elastic energy harvester	Paola Tiberto , <i>Istituto Nazionale di Ricerca Metrologica INRIM</i>
16:45	Sensitivity Enhancement of Vicinal La ₂ /3Sr ₁ /3MnO ₃ Anisotropic Magnetoresistance Sensors using Engineered Flux Concentrators	Tagi TAGIYEV , <i>Universit� Caen Normandie</i>
17:00	Magnetoelastic Ribbons: Optimization for Mass Sensing and Application to Hydrogel Gelation Monitoring	Ana Catarina Lopes , <i>University of the Basque Country, UPV/EHU</i>
17:15	Langevin-Based SPIO Magnetometer for Remote DC Magnetic Field Sensing	Alexey Tonyushkin , <i>Oakland University, Rochester</i>
17:30	Poster Session	
18:30	Walk to dinner venue	
19:00	Conference Dinner Restaurant Kazerne, Eindhoven city center	

Thursday, July 9

Senaatszaal, Auditorium Building

08:00	Registration & Welcome Coffee	
09:00	Magnetic sensing with NV centers in diamond and application to extreme conditions	Jean-François Roch , <i>ENS Paris-Saclay & University Paris-Saclay</i>
09:30	Multiphysics Model of a Spin Hall Magnetoresistance Magnetic Field sensor	Syeda F Bukhari , <i>Istituto Nazionale di Ricerca Metrologica INRIM</i>
09:45	Low-frequency noise and nano-Tesla detection limit in planar-Hall magnetoresistive (PHMR) sensors	Proloy Taran Das , <i>Helmholtz-Zentrum Dresden-Rossendorf</i>
10:00	A skyrmion magnetic field sensor for ultra-sensitive out-of-plane magnetic field detection	Lucia Malucelli , <i>Université Grenoble Alpes, CNRS, CEA, SPINTEC</i>
10:15	Ring-shaped spin Hall magnetoresistance sensor	Jiayi Xu , <i>National University of Singapore</i>
10:30	Coffee Break	
11:00	Comparison of Racetrack and Dual-rod Cores for Usage in Micro-fluxgates	Jiri Maier , <i>Czech Technical University</i>
11:30	Harmonic Hall Voltage Analysis of Current-Induced Torques for Magnetic Sensor Design	Robbe Knevels , <i>Eindhoven University of Technology</i>
11:45	Anomalous Nernst effect in Co/Pt multilayers on flexible substrates	Pablo Martinez Outomuro , <i>Instituto de Ciencia de Materiales de Madrid</i>
12:00	Liquid Crystal Polymers as Intrinsically Magnetic and Programmable Soft Materials for Microrobotics	Alexandra Gruzdenko , <i>Eindhoven University of Technology</i>
12:15	Micro-robot actuation in microfluidics	Chia-Yuan Chen , <i>National Cheng Kung University</i>
12:30	Lunch	
13:30	Tunable Microwave Scattering Signatures of 3D Sensing Platforms Based on Ordered Magnetic Microwire Assemblies	Pilar Marín , <i>Universidad Complutense de Madrid</i>
13:45	Large-Area Magnetoresistive Electronic Skin for High-Resolution Magnetic Field Mapping	Yevhen Zabala , <i>Helmholtz-Zentrum Dresden-Rossendorf</i>
14:00	Standardized Magneto-Optical Sensor Technology For Testing GOES	Morris Lindner , <i>INNOVENT e.V.</i>
14:15	Awards & Closing Session	

Satellite Workshop

Developing Standards in Magnetics: IEEE Magnetics Society and IEEE Standards Association Workshop
 Theme 1: Standardizing Sensors

14:30	Networking Session 1: Coffee Break	
15:00	Welcome and Introduction	Organizers and IEEE Standards Association Representative
15:20	Focus: From laboratory methods to standardization: lessons from microfluidics for magnetic sensor systems	Vania Silverio, INESC-MN and IST
15:40	Focus: Micromagnets, magnetic sensors and magnetic position systems: design, fabrication, integration, and standardization challenges in magnetic microsystem applications	Stefano Lumetti, Silicon Austria Labs
16:00	Focus: Magnetic characterization at the nanoscale	Paola Tiberto, INRIM
16:20	Focus: Standardization of magnetic measuring scales for linear and angular position systems: industry perspectives and challenges.	Rolf Slatter, ITKNet
16:40	Wrap up and key points for discussions	
16:50	Break and move to discussion rooms	
17:00	Parallel sessions	Room 1: Academic & Research Perspectives
		Room 2: Materials, Thin Films, Patterning & Reference Structures
17:45		Room 1: System Integration and Emerging Platforms
		Room 2: Instrumentation and Electronics
18:30	Networking Session 2: Drinks & Bites	

The program is subjected to changes