Z43 NEWSQUARTER
No.32/2025

MEASUREMENTS

cSAR3D V5.10: Enhanced Accuracy and Repeatability with X4 Combiner

SPEAG's recently released cSAR3D V5.10 reduces the variability of cSAR3D measurements to typically less than 0.4 dB (10%) for phones and substantially improves the correlation with the true peak spatial specific absorption rate (SAR) 1g/10g. Correlations also with DASY8 are enhanced for any SAR distribution with the new X4 combiner as well as with the newly enhanced X10 combiner. For more information – also on the combined use of time-averaged SAR (TAS) and non-TAS testing – please contact info@speag.swiss.

MEASUREMENTS

RRT Lithuania – The New Market Surveillance System for Europe

SPEAG has installed its DASY8^{3D} combined with DASY8 Module SAR at the Communications Regulatory Authority of the Republic of Lithuania (RRT), the regulatory laboratory designated for market surveillance of wireless devices for the European Union. This is the sixth DASY8^{3D} system installed in the world to be used for market surveillance.

STANDARDS

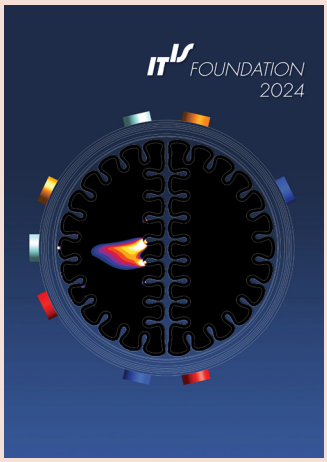
TCB Council Workshop

In April, at the semi-annual Telecommunication Certification Body (TCB) Council Workshop in Santa Clara CA, USA, the US Federal Communications Commission (FCC) introduced a persistent inquiry approval (PIA) process for SAR phantoms. SPEAG is committed to submitting PIAs to speed up certification approval. DASY8 is compatible with all new guidelines for SAR, hearing aid compatibility, absorbed- and induced power density, and wireless power transfer testing. Read more about it here.

CTTL Beijing Ready for cSAR3D Calibrations

During our visit to the China Telecommunication Technology Labs (CTTL) on May 18, we successfully concluded our interlaboratory comparison and dual-logo audit 2025. CTTL has now added cSAR3D calibration to its scope.

ANNUAL REPORT

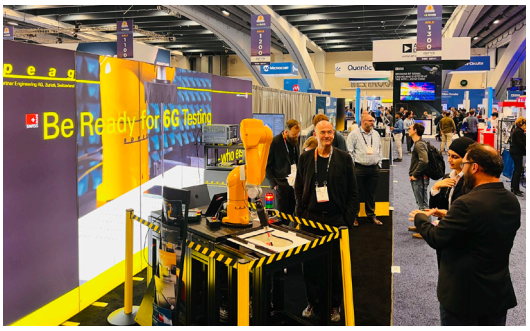


The IT'IS Annual Report 2024 is now available! Check out the numbers, the stories, the insights, and all of last year's successes.

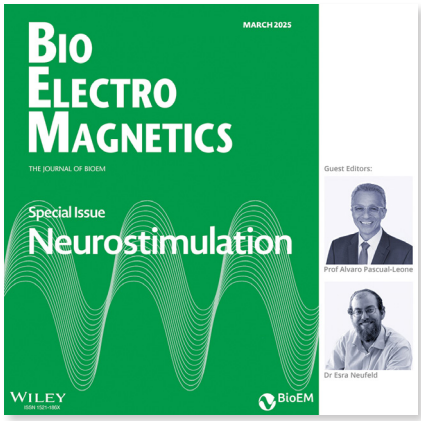
WORKSHOP

Successful Promotion & Industry Feedback Tour

The 2025 Z43–Auden Workshop Series brought together professionals from academia, industry, and government in Taipei, Beijing, Shanghai, and Shenzhen. In addition, the IMS2025 exhibition and Z43's tour through Silicon Valley provided ample opportunities for in-depth technical exchange, direct engagement with customers about their needs, and live demos of our products. We are already looking forward to continuing the conversation! See you again next year!



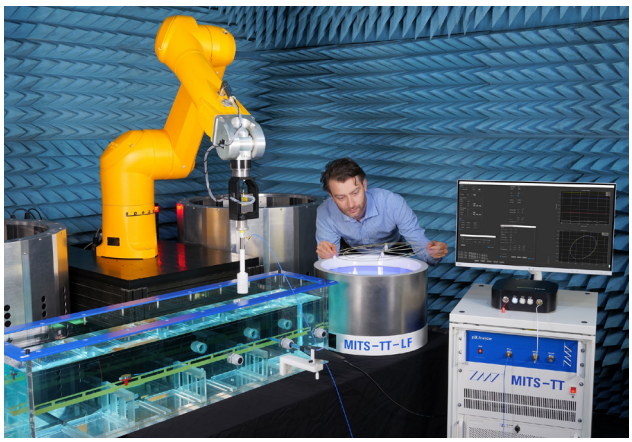
PUBLICATIONS



Neuromodulation, especially non-invasive temporal interference (TI) deep brain stimulation, has garnered considerable attention within the research community that is rapidly moving towards identifying therapeutic applications. Members of the IT'IS Foundation, Alvaro Pascual-Leone (IT'IS Board Member) and Esra Neufeld (Associated Director of Computational Life Sciences) took the initiative to launch the first edition of the Bioelectromangetics Journal Special Issues series, with the first issue dedicated to neurostimulation – a growing field of BioEM, especially in regard to safety aspects. Find out more here.

MEASUREMENTS

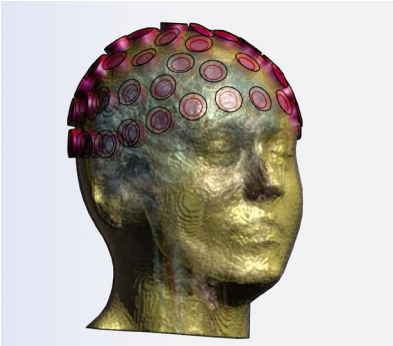
Low-Field 0.55T piX and MITS-TT-LF



ZMT covers new fields! ZMT's magnetic resonance imaging (MRI) Implant Safety Test Suite has been extended with MITS-TT-LF and the expanded MRIxViP library from IT'IS to fully support the ISO 10974 Tier 3 workflow for implant risk evaluations in low-field 0.55T MRI. Other MRI field strengths are now also available on request. Read more here.

TEMPORAL INTERFERENCE

TIP V4.0 Release



IT'IS has released TIP V4.0, the latest version of our temporal interference planning (TIP) tool that sets benchmarks for automation, efficiency, and precision optimization. Whether you are designing clinical protocols or conducting brain stimulation research, TIP V4.0 is built to make your work easier, more reproducible, and more effective. TIP V4.0 is available to groups enrolled in the TI Solutions Early Adopter Program and to TIBS-R users at no cost.

WORKSHOP

Strong Attendance at ISMRM 2025 Workshop

ISMRM 2025 in Honolulu, Hawaii, was a big hit! Attendance was substantial for the invited talks at the Sim4Life User Workshop and lunchtime Booth Talk series, which covered a wide range of exciting applications for Sim4life. Also, at the booth, ZMT presented improvements to Sim4Life.web and the novel Low-Field Implant Safety Test Suite. Come back for more at the ISMRM Safety Workshop in Berlin in September!

RESEARCH

PUBLICATIONS

Focal Control of Non-Invasive Deep Brain Stimulation Using Multipolar Temporal Interference
B. Botzanowski, *et al.,* 2025, Bioelectronic Medicine,
doi: 10.1186/s42234-025-00169-6 (online 27 March 2025)

Noninvasive Temporal Interference Stimulation of the Subthalamic Nucleus in Parkinson's Disease Reduces Beta Activity
M. Lamoš, *et al.,* 2025, Movement Disorders,
doi: 10.1002/mds.30134 (online 09 April 2025)

Short-Dipole Sensor Response Linearization Through Physics-Informed Neural Networks
A. Fasse *et al.,* 2025, Bioelectromagnetics,
doi: 10.1002/bem.70010 (online 22 May 2025)

BlueRecording: A Pipeline for the Efficient Calculation of Extracellular Recordings in Large-Scale Neural Circuit Models
J. J. Tharayil, *et al.,* 2025, PLOS Computational Biology,
doi: 10.1371/journal.pcbi.1013023 (online 23 May 2025)

Efficient Fourier Base Fitting on Masked or Incomplete Structured Data
F. Karimi, *et al.,* 2025, Frontiers in Neuroimaging, Neuroimaging Analysis and Protocols Section,
doi: 10.3389/fnimg.2025.1480807 (online 04 June 2025)

Physical Insights and Design Principles for Efficient Wireless Implantable Bioelectronics
M. Gao, *et al.,* 2025, Cell Reports Physical Science,
doi: 10.1016/j.xcrp.2025.102627 (online 20 June 2025)