

EXPERT GROUP HIGH-FREQUENCY ENGINEERING AND RADIO COMMUNICATIONS



Event: Vorstellung, Kooperation und Antragsfindung

FTZ Eilenburger Straße 13, 04317 Leipzig
Konferenzraum Startbahn 13, 02.07.2026

| Block | Vortrags-Nr. | Start | Ende | Vortragsthema | Vortragender |
|-------------------|--------------|---------------|-------|---|--|
| Eröffnung | | 09:30 | 09:40 | Eröffnung | Prof. Dr. René Sallier Moritz John, IHK zu Leipzig |
| 1 | 1 | 09:40 | 10:00 | Dienstgüteprädiktion für Mobilfunknetze | Prof. Dr. Michael Einhaus |
| | 2 | 10:00 | 10:20 | HF-Messungen mit Drohnen – aktueller Stand und zukünftige Herausforderungen | Prof. Dr. habil Robert Geise |
| | 3 | 10:20 | 10:40 | Praktische Implementierung und Analyse eines voll integrierten FMCW Radars | M.Sc. Nils Hollmach, tecVenture |
| Pause | | 15 min | | | |
| 2 | 4 | 10:55 | 11:15 | Energieeintrag in Medien in HF-Anwendungen | Prof. Dr. René Sallier |
| | 5 | 11:15 | 11:35 | Strukturen- und Materialeigenschaften für HF-Anwendungen | M.Sc. Jens Voigt |
| | 6 | 11:35 | 11:55 | Einsatzbereiche einer Vollabsorberhalle und mehr | M.Eng. Carsten Rabe, EMV Zentrum Leipzig, FTZ Leipzig e.V. |
| Pause | | 60 min | | | |
| 3 | 7 | 12:55 | 13:15 | LEO-Satellitenkommunikation an der HTWK | Prof. Dr. habil Marco Krondorf |
| | 8 | 13:15 | 3.35 | Sichere Eingebettete Systeme | Prof. Dr. Jörn Hoffmann |
| | 9 | 13:35 | 13:55 | Unternehmensvorstellung | Frank Güttler, bitaggregat GmbH |
| Pause | | 30 min | | | |
| Diskussion | | 14:25 | 16:00 | "Forschung und Kooperation", Weiteres | Yvonne Hahn |

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Contacts

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ARTME - Applied Radio Technology and Microwave Engineering

Prof. Dr. René Sallier and M. Sc. Jens Voigt

- High-frequency Circuit and Electronics Design
- Material Properties in High-frequency Applications
- Frequency-selective Structures, Antennas and Surfaces



NEMS & AeroXess

Prof. Dr. habil. Robert Geise

- Antenna Design
- RF-Measurements
- Radar Applications
- Navigation Systems
- UAV-based Measurements
- Electromagnetic Simulations



Senior Consultant Research Transfer

Prof. Dr. Detlef Schlayer

- EMC
- Electrical Engineering
- Electromagnetic Fields

RadioLab

Prof. Dr. Michael Einhaus

- Simulation for Mobile Radio Networks
- Planning and Optimization for MRN
- Propagation and QoS Measurements
- Modeling and Digital Twins for MRN
- Industry and Campus Networks



Secure Systems Lab

Prof. Dr. Jörn Hoffmann

- Secure Chip Design
- Security for Embedded Systems
- Secure Communication Architectures
- Security of Real-time Operating Systems

COM-Lab

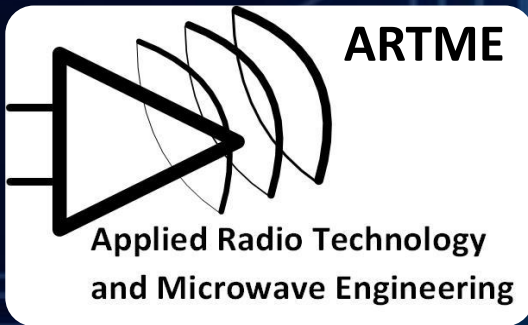
Prof. Dr. habil. Marco Krondorf

- Modulation and Coding
- FPGA Implementations
- Satellite Communications
- Baseband Signal Processing
- Spread Spectrum Systems, OFDM
- Monte-Carlo System Simulations



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Our Labs

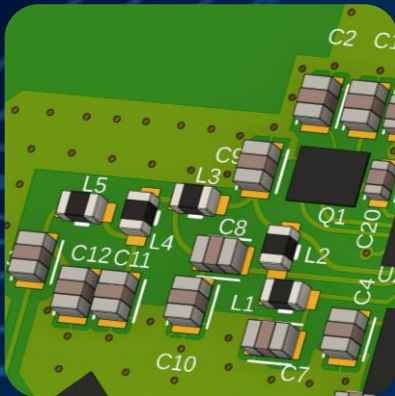
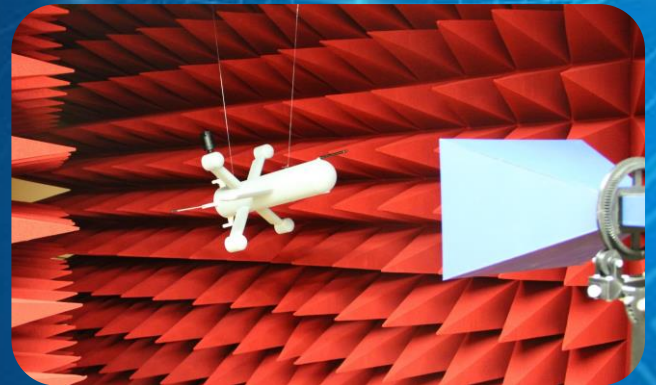


Equipment

- Signal and spectrum analyzers and vector signal generators from 100 kHz to 30 GHz
- network analyzers from 5 kHz to 6 GHz, high-power
- RF amplifiers from 13.5 MHz and, at lower power levels, up to 20 GHz
- measurement setups for determining dielectric properties
- measurement antennas from the shortwave range up to 20 GHz

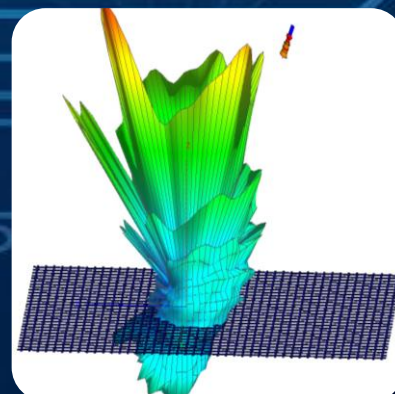
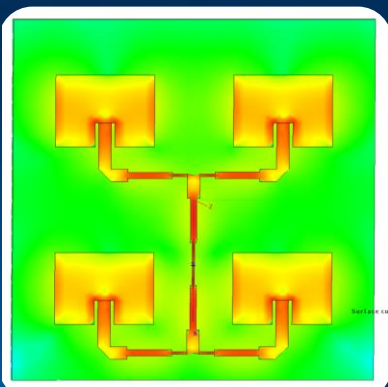
Semi-Anechoic Chamber - 300 MHz to 40 GHz

- TX / RX of system components within objects
- Material properties under EM waves
- Measurement of RF-resonant and selective structures



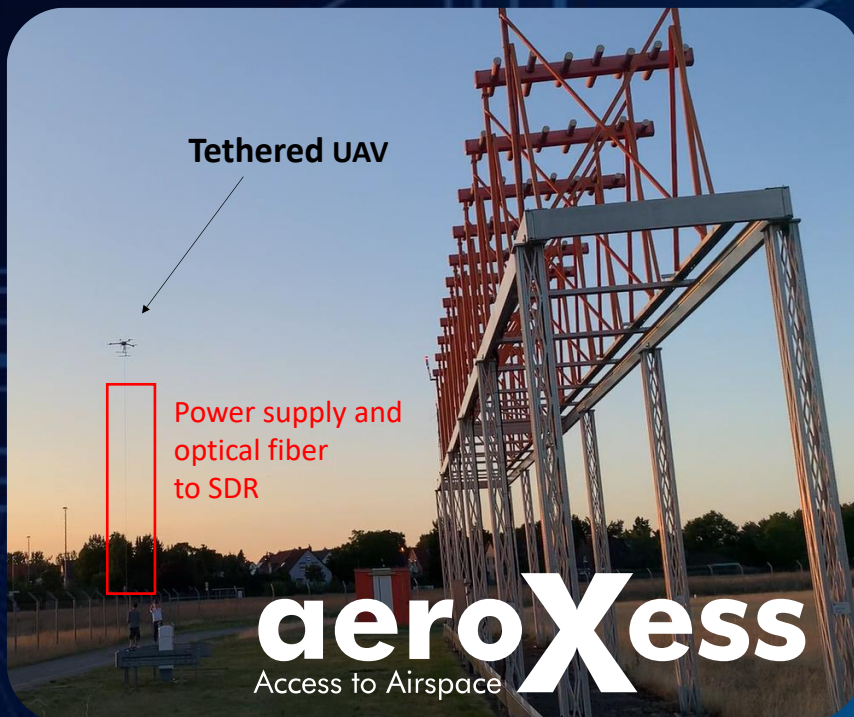
Circuit and PCB Design

- High-frequency PCB design (up to the double-digit GHz range)
- High-speed digital design (Autodesk Fusion Electronics)
- RF simulation & development (Altair FEKO, MATLAB)

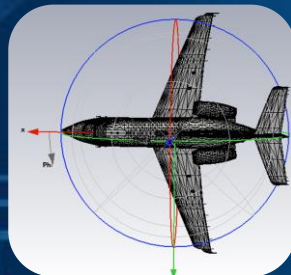
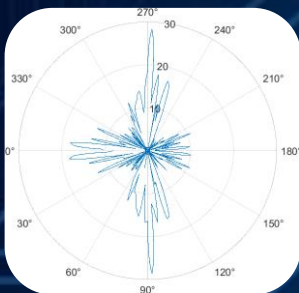


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Our Labs



With our **AeroXess** laboratory we perform UAV based high frequency measurement applications. In particular, near field measurements of large antenna, e.g. navigation systems at airports can be performed in-situ. Low-frequency antennas, too large for nowadays anechoic chambers can also be characterized.



In our **NEMS** laboratory we realize antenna and propagation measurements as well as sophisticated EMC tests. Overall, we can analyze the integrity of communication and navigation systems. Lab infrastructure:

- Full anechoic chamber from 1 GHz
- High frequency measurements, spectrum analysis and vector analysis up to 20 GHz
- Outdoor and mobile equipment
- Oscilloscope up to 6 GHz
- Antennas from 30 MHz to 20 GHz
- Electromagnetic simulation software (Altair FEKO and CST Studio)
- Compute cluster for large electromagnetic simulations (> 1 TB RAM)

NEMS
LABORATORY
Navigation Electromagnetics Measurement Simulation

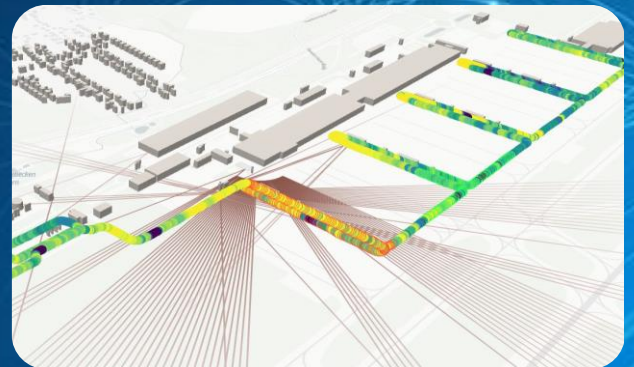
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RadioLab
HTWK Leipzig

RadioLab

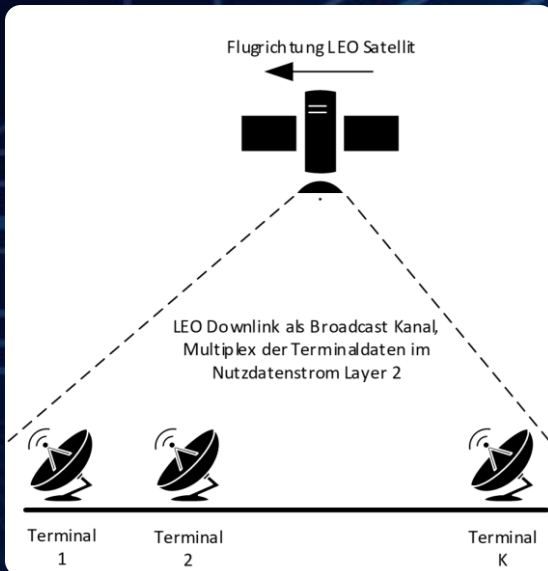
- Simulation and QoS Prediction for Mobile Radio Networks
- Radio Access Network Planning and Optimization
- Propagation and QoS Measurements
- Modeling and Digital Twins for Mobile Radio Networks
- Industry and Campus Networks



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ARTME



COM-Lab Satellite Communications

- Baseband signal processing and link budget calculations for LEO satellite communications
- Waveform-Design Layer 1 and Layer 2
- Software defined radio and real time signal processing using FPGA
- LEO overflight simulations
- GNSS-denied object tracking
- LDPC FEC and iterative turbo-receivers
- Phased array beam forming and DoA estimation
- Time and frequency synchronization
- MIMO-OFDM base band signal processing

Secure-System-Lab

- Secure IC-Design
- Threat Modelling
- Cryptographic ICs
- System Hardening
- Real-Time Detection
- Side-Channel Protection
- Fault Injection Protection

