

OBJECTIVE

Doctoral student seeking position in a collaborative team that can utilize my skills in research and development gained from academia and industry experience developing numerical, antenna, RF, and measurement solutions.

EXPERTISE

Circuits and EM simulation software	ADS, FEKO, CST, HFSS, LabVIEW
Programming skills	C/C++, MATLAB, Python, Mathematica
Lab skills	RF measurements, circuit design/construction, transmitter/receiver design, antenna modeling, test automation (GPIB interface)
Test equipment	Network analyzer, spectrum analyzer, frequency meter, waveform generator, digital oscilloscope, multimeter, gaussmeter

EXPERIENCE

Vienna University of Technology Feb 2016 – Present
Research Assistant at the Computational Magnetism Group Vienna, Austria

- Magnetic sensor characterization with network/spectrum analyzer and real-time oscilloscope
- Experimental and numerical research of sensor's nonlinear regime
- Extensive research of the micromagnetic + spin transport sensor model

Western Digital Apr 2015 – Sept 2015
Micromagnetic Modeling Intern at the Read Head Staging Group Fremont, California

- Assembled the spin-torque ferromagnetic resonance (ST-FMR) measurement equipment
- Built the sensor micromagnetic model for the ST-FMR studies
- Researched dynamic effects of magnetic multilayer interlayer coupling (aka FMR) through experiments and simulations

Tufts University Jan 2014 – Sept 2015
Research Assistant at the Millimeter and Submillimeter Waves Lab Medford, Massachusetts

- Designed and simulated a CMOS compatible substrate integrated waveguide (SIW) horn antenna for a miniaturized 60 GHz front-end
- Operated RF and microwave test and measurement equipment

Western Digital May 2014 – Aug 2014
Development Intern at the Read Head Staging Group Fremont, California

- Characterized present and prototype magnetic sensor designs up to 10 GHz with network analyzer
- Constructed finite element (using the electromagnetic software CST) and equivalent circuit (using the electronic design automation software ADS) models of a magnetic sensor and validated with experimental data
- Proposed new sensor designs with better RF performance and worked with integration team to implement new designs
- Submitted two invention disclosures and published scientific article for *IEEE Transactions on Magnetics*

Northeastern University*Research Assistant at the Computational EM and Photonics Lab*

Sept 2012 – Jan 2014

Boston, Massachusetts

- Researched the theoretical foundation of hierarchical matrix techniques applied to hyperbolic operators
- Implemented the agglomeration (recompression) subroutine for the approximation of a hierarchical matrix by another matrix with fewer product terms
- Generalized and implemented the robust numerical method for rational approximation in the frequency domain (“vector fitting”) developed by the Norwegian mathematician Bjørn Gustavsen
- Developed a near-field probe subroutine for the comparison of software simulation results and near-field measurements

Kazan Aviation Institute*Teaching Assistant at the Metrology and Radio-Measurements Lab*

Oct 2011 – Jun 2012

Kazan, Russia

- Designed and prepared laboratory experiments for freshmen and sophomores
- Assisted students in their lab experiments
- Reviewed students’ lab reports and graded them

Infolink Telecommunications Company*Voice-over-IP Engineer*

Aug 2009 – Jul 2011

Cheboksary, Russia

- Programmed VoIP-based telecommunication systems
- Modified/updated software related to call services, VoIP routers, and adapters
- Provided customer technical support

EDUCATION

Vienna University of Technology, Vienna, Austria

Ph.D. Student in Science and Engineering

Feb 2016 – Present

Chuvash State University, Cheboksary, Russia

B.S., M.S. in Electrical Engineering with Honors

Concentration: RF Engineering

GPA: 4.0

Sept 2005 – Jun 2011

PUBLICATIONS

Ekaterina Auerbach, Savas Gider, Gonçalo Albuquerque, and Daniele Mauri“Influence of Parasitic Capacitance on Single and Dual 2-D Magnetic Recording Read Head Performance,” *IEEE Trans. Magn.*, Vol. 52, No. 7, Jul 2016Davood Ansari-Oghol-Beig, Masoud Rostami, **Ekaterina Chernobrovkina**, *et al.*“Parametric hierarchical matrix approach for the wideband optical response of large-scale molecular aggregates,” *J. Appl. Phys.* 114, 164315 (2013)**CONFERENCE TALKS**

IEEE International Magnetics Conference, INTERMAG Europe 2017, “High-Frequency Modes of the Dual Free Layer Sensor,” April 2017, Dublin, Ireland

The International Workshop on Integrated Nonlinear Microwave and Millimeter-wave Circuits, “Characterization of Dynamic Nonlinear Effects in Magnetic Tunnel Junction (MTJ)-Based Magnetic Sensors,” April 2017, Graz, Austria

61st Annual Conference on Magnetism and Magnetic Materials, “Measurement and Characterization of Nonlinearities in Magnetic Tunnel Junctions,” Nov 2016, New Orleans, LA