

Curriculum Vitae

CONTACT INFORMATION Errikos Lourandakis Tel: (+30) 6972020327
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Greece www.lourandakis.com

PERSONAL DATA Born in Nuremberg, Germany, 29.09.1981, Citizenship: Greece

QUALIFICATIONS Senior RF & Microwave engineer with extensive experience in circuit design and characterization techniques. Design, layout and hands-on measurements of mm-wave silicon ICs. Modeling of on-chip passive devices and proven EDA tool development skills for RF and mm-wave integrated circuits. Author, researcher, and educator with a solid professional and academic track record.

PROFESSIONAL EXPERIENCE **RF & Microwave Measurements** Jan. 2012 – present
Coach and Instructor (www.lourandakis.com)
Theory and hands-on training for RF/microwave design, measurements and equipment.

Helic Inc., Athens, Greece Sep. 2009 – present
Senior R&D Engineer (www.helic.com)
Silicon device modeling of integrated RF/mm-wave passive components in advanced CMOS, BiCMOS, and SOI processes. Prototype IC design and characterization with on-wafer measurements. Responsible for 70GHz RF silicon characterization lab.

- Multiple tape-outs in sub 40nm CMOS (>30mm²) (layout, schematic, DRC, LVS)
- Key contributor for mm-wave device synthesis and extraction tool
- Key contributor for 3D electrostatic capacitance extraction tool
- Project management for Electronic Design Automation (EDA) software tool development
- Book author on RF silicon device characterization
- Numerous RF/mm-wave papers in peer reviewed publications
- Patent contributor/inventor

University of Erlangen-Nuremberg, Germany Sep. 2005 – Feb. 2009
Research Assistant in Third-Party Project with EPCOS A.G., Munich at the Institute for Electronics Engineering (www.lfte.de) under guidance of IEEE Fellow Prof. Robert Weigel. RF and microwave circuit design and verification of innovative frequency agile microwave circuit blocks. Microwave hybrid circuit design, fabrication, and prototype verification at lab. Responsible for microwave measurement laboratory.

Baumuller GmbH, Nuremberg, Germany Jul. 2003 – Aug. 2003
Laboratory Assistant
Control unit assembly and prototype testing of electric motors.

TEACHING **RF & Microwave Measurements** Jan. 2016 – present
EXPERIENCE *Coach & Instructor*
Online training and hands-on workshops on microwave measurement techniques and equipment.
University of Erlangen-Nuremberg, Germany Sep. 2006 – Jul. 2007
Teaching Assistant
Circuit Theory, undergraduate course in Electrical Engineering

EDUCATION **University of Erlangen-Nuremberg**, Germany Sep. 2005 – Feb. 2009
Electrical Engineering, Ph.D. (magna cum laude)
Thesis Topic: Frequency Agile Microwave Circuits Based on Ferroelectric Thin-Film Varactors
University of Patras, Greece Sep. 1999 – Feb. 2005
Electrical Engineering, Dipl. Eng. (GPA: 6.8 out of 10)
Electronics and Computer Technology Division
Thesis Topic: Design of Broadband RF-Amplifier

TECHNICAL **Microwave and mm-wave engineering techniques, design, layout, and proto-**
SKILLS & TOOLS **typing of hybrid circuits. Extensive experience in coaxial measurements as**
well as on-wafer measurement techniques with manual and semiautomatic probe stations. Confident use of network-, spectrum/signal-, and impedance analyzers, signal generators, power meters, and oscilloscopes.

Agilent Advanced Design System (ADS) and Momentum experience: RF- and microwave circuit design. Layout and optimization techniques including linear, nonlinear, transient, harmonic balance, and envelope simulations.

Cadence Virtuoso and Spectre-RF experience: design and layout of integrated passive structures, RF simulation. Tape-out experience in sub-40nm nodes, including layout, schematic, DRC and LVS. Experimental on-wafer device characterization.

SONNET EM: 3D electromagnetic simulation of microwave structures.

Scientific publishing at international top-ranked journals, conferences, and workshops. Academic track record since 2006.

Tools: MATLAB, Python, Cascade WinCal, Corel Draw, L^AT_EX, MS Office, Windows OS, and LINUX.

LANGUAGE **Greek, native speaker**
SKILLS **English, fluent** European Certificate Level – B2
German, fluent European Certificate Level – B2

- CLASSES & COURSES
- Continuing Education Institute CEI-Europe 5-days course in RF Components and Systems Measurements. Measurement theory and techniques for Network- and Spectrum-Analyzers, Vector Signal-Generators and -Analyzers. Hands-on experimental part. March 2012
- Cascade 2-days hands-on training on Summit 12000 semi-automatic probe station for RF-measurements and calibration August 2010
- Cadence 1-day simulation hands-on workshop October 2009
- Maury Microwave 2-days training for load-pull measurements with automated tuner equipment November 2008
- Certificate of Academic Teaching July 2008
- Courses at the University of Erlangen-Nuremberg: Didactic Techniques, Presentation Methods, Oral Examinations, Phonetic, Evaluation and Feedback Techniques, People Management, L^AT_EX Typesetting, Consulting Techniques.
- MEMBERSHIP & ACTIVITIES
- Reviewer for European Microwave Week and peer reviewer for the following journals, Progress in Electromagnetic Research Journal, IET Microwaves, Antennas & Propagation, International Journal of Microwave and Wireless Technologies, IEEE Transactions on Microwave Theory and Techniques.
- BOOKS
- E. Lourandakis, 'On-Wafer Microwave Measurements and De-embedding', Artech House 2016, ISBN: 978-1-63081-056-6.
- BOOK CHAPTERS
- T. Noulis, S. Stefanou, E. Lourandakis, P. Merakos, Y. Moisiadis, 'Wireless Communications System on Chip substrate noise real time sensing', Chapter 9 in Noise Coupling in System-on-Chip, CRC Press, 2017, ISBN: 9781498796774.
- PATENTS
- S. Bantas, K. Karouzakis, S. Stefanou, A. Liapis, L. Kokkalas, K. Nikellis, E. Lourandakis, 'TRANSFORMER SYNTHESIS AND OPTIMIZATION IN INTEGRATED CIRCUIT DESIGN', United States Patent 9824165.
 - M. Visvardis, S. Stefanou, E. Lourandakis, 'METHOD OF EXTRACTING CAPACITANCES OF ARBITRARILY ORIENTED 3D INTERCONNECTS', United States Patent 10013522B2.
- THESES
- E. Lourandakis, 'Frequency Agile Microwave Circuits Based on Ferroelectric Thin-Film Varactors', Ph.D. Dissertation, University Erlangen-Nuremberg, Apr. 2009.
 - E. Lourandakis, 'Design of Broadband RF-Amplifier', Diploma Thesis, University of Patras, 2005

JOURNALS

- E. Lourandakis, K. Nikellis, M. Tsiampas, S. Yamaura, Y. Watanabe, 'Parametric Analysis and Design Guidelines for mm-Wave Transmission Lines in nm CMOS', in IEEE Transactions on Microwave Theory and Techniques, pp. 4383-4389, Volume 66, Issue 10, Oct. 2018.
- T. Noulis, P. Merakos, E. Lourandakis, S. Stefanou, Wide-Band Substrate Crosstalk Sensor for Wireless SoC Applications, in Sensors and Actuators A: Physical, pp. 144-152, Jan. 2016.
- T. Noulis, E. Lourandakis, S. Stefanou, P. Merakos, CMOS 65nm on chip broadband real time substrate noise measurement, in IET Electronics Letters, Volume:51 , Issue: 21, pp. 1710-1711, Oct. 2015.
- E. Lourandakis, R. Weigel, H. Mextorf, R. Knoechel, 'Circuit Agility', in IEEE Microwave Magazine, pp. 111-121, Volume 13, Issue 1, Jan.-Feb. 2012.
- E. Lourandakis, M. Schmidt, S. Seitz, R. Weigel, 'Reduced Size Frequency Agile Microwave Circuits Using Ferroelectric Thin-Film Varactors', in IEEE Transactions on Microwave Theory and Techniques, Volume 56, Issue 12, Part 2, pp. 3093-3099, Dec. 2008.
- E. Lourandakis, F. Plessas, G. Kalivas, 'A 0.5 - 5.5 GHz Distributed Low Noise Amplifier', in ECTI Transaction EEC, pp. 26 - 31, Volume 6, No. 1, Feb. 2008.

PAPERS

- E. Lourandakis, K. Karouzakis, P. Papadopoulos, J. Chicharro, R. Weigel, 'Integrated RF transformer and power combiner design in 150nm CMOS process', in European Microwave Integrated Circuits, pp. 17-20, Oct. 6-7, 2014.
- E. Lourandakis, S. Stefanou, K. Nikellis, S. Bantas, 'RF Passive Device Modeling and Characterization in 65nm CMOS Technology', in 2013 International Symposium on Quality Electronic Design, pp. 674-680, Mar. 2013
- E. Lourandakis, K. Nikellis, S. Stefanou, S. Bantas, 'Inductor Modeling with Layout-Dependent Effects in 40nm CMOS Process', in 2012 IEEE Silicon Monolithic Integrated Circuits in RF Systems, pp. 81-84, Jan. 2012.
- F. Ali, E. Lourandakis, R. Gloeckler, G. Fischer, R. Weigel, 'Analysis of a new approach for tunable and reduced size balanced amplifier using thin-film BST varactors', in 2010 IEEE Microwave Radar and Wireless Communications, Jun. 2010.
- F. Ali, E. Lourandakis, R. Gloeckler, K. Abt, G. Fischer, R. Weigel, 'Tunable Multiband Power Amplifier using Thin-Film BST Varactors for 4G Handheld Applications', 2010 IEEE Radio and Wireless Symposium, pp. 236-239, Jan. 2010.

- E. Lourandakis, G. Fischer, R. Weigel, 'Characterization and Modeling of Continuously Tunable MEMS Varactor', in 2009 IEEE German Microwave Conference, pp. 1–4, Mar. 2009.
- E. Lourandakis, M. Schmidt, G. Fischer, R. Weigel, 'A Ferroelectric Tunable Combline Filter With Improved Stopband Transitions', in 2009 IEEE Radio and Wireless Symposium, pp. 340–343, Jan. 2009.
- E. Lourandakis, M. Schmidt, S. Seitz, R. Weigel, 'Tunable Lumped Element Filters with BST Thin-Film Varactors', in 2008 European Wireless Technology Conference, pp. 270–273, Oct. 2008.
- E. Lourandakis, M. Schmidt, A. Leidl, S. Seitz, R. Weigel, 'A Tunable and Reduced Size Power Divider Using Ferroelectric Thin-Film Varactors', in 2008 IEEE International Microwave Symposium Digest, pp. 967–970, Jun. 2008.
- E. Lourandakis, M. Schmidt, A. Leidl, S. Seitz, R. Weigel, 'Reduced Size and Tunable Microwave Circuits Using BST Thin-Film Varactors', in 2008 German Microwave Conference, pp. 213–216, Mar. 2008, invited paper.
- M. Schmidt, E. Lourandakis, A. Leidl, S. Seitz, R. Weigel, 'A comparison of tunable ferroelectric Π - and T -matching networks', in 2007 European Microwave Conference, pp. 88–101, Oct. 2007.
- M. Schmidt, E. Lourandakis, R. Weigel, A. Leidl, S. Seitz, 'A Thin-Film BST Varactor Model for Linear and Nonlinear Circuit Simulations for Mobile Communication Systems', in 2006 IEEE International Symposium on the Applications of Ferroelectrics, pp. 372–375, Jul. 2006.

WORKSHOPS

- E. Lourandakis, 'nm CMOS Device Synthesis for mm-Wave Design', in Proceedings of CDNLive EMEA, May 2016.
- R. Weigel, E. Lourandakis, 'Reconfigurable Front-End Modules Based on Ferroelectric Varactors', in Workshop Proceedings of 2009 European Microwave Conference, Oct. 2009.
- R. Weigel, E. Lourandakis, 'Frequency Agile Ferroelectric Filters, Power Dividers and Couplers', in Workshop Proceedings of 2009 IEEE International Microwave Symposium, Jun. 2009.
- E. Lourandakis, M. Schmidt, R. Weigel, 'Tunable BST-Varactor-Based Matching Networks for Mobile Radio Applications', in Workshop Proceedings of 2008 IEEE International Microwave Symposium, Jun. 2008.

CITATIONS

h-index = 7 (194 total citations, source Google Scholar - Oct. 2018)