

Ahmet Unutulmaz, Ph.D.

E-mail: ahmet.unutulmaz@marmara.edu.tr

Web: <https://avesis.marmara.edu.tr/ahmet.unutulmaz>

EDUCATION

2009-2015

Doctor of Philosophy (GPA: 4.00)

Department of Electrical and Electronics Engineering, Boğaziçi University

Thesis: *Enhanced Layout-Aware Circuit/System Synthesis*

Supervisor: Prof. Günhan Dündar

2006-2009

Master of Science (GPA: 3.92)

Department of Electrical and Electronics Engineering, Boğaziçi University

Thesis: *Analog Layout Synthesizer for a Parasitic-Aware Design Loop*

Supervisor: Prof. Günhan Dündar

2001-2006

Bachelor of Science (GPA: 3.78)

Department of Electrical and Electronics Engineering, Boğaziçi University

EXPERIENCE

2021-Present

Assistant Professor

Department of Electrical and Electronics Engineering, Marmara University

2017-2021

Principal Researcher

UEKEA – TÜBİTAK BİLGEM National Electronics and Cryptology Institute

2015-2016

Postdoctoral Researcher

OFFIS – Institute for Information Technology, Germany

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INTERNATIONAL RESEARCH PROJECTS

TUBITAK-112E005

Aging and Variability Aware Analog Circuit Optimization (Researcher)

FP7-619234 (MoRV)

Modeling and Simulating NBTI induced Degradation (Researcher)

ECSEL-662192 (3CCAR)

Estimating IGBT Lifetime in Electric Vehicles (Researcher)

RESEARCH INTERESTS

- Design of Analog and Mixed Signal Circuits
- Development of EDA Tools for Analog and Mixed Signal Circuits
- Aging Effects on Field Effect and Power Transistors and their Reliability
- Optical Lithography and Computational Lithography
- Nano-Electronics
- Quantum Computing
- Design and Simulation Tools for Electric Vehicles
- Numerical Methods for PDEs, FEM and Multi-Domain Simulations
- Artificial Intelligence, Deep and Machine Learning
- In Memory Computing
- Optimization Techniques and Algorithms

SELECTED HONOURS AND AWARDS

2013	The Highest Score Ever in Ph.D. Qualification Exam
2012	Best Paper Candidate, SMACD 2012
2006-2008	TUBITAK Scholarship
2006	Highest Honor Certificate
2001	Highest Degree Graduation Certificate

CERTIFICATES

Deep Learning Specialization (5 Courses)

coursera.org/verify/specialization/CWZ2Y6WLFYVK

Heidelberg – DWL2000 Laser Lithography Printer System Advanced Training

PUBLICATIONS

Book Chapters

- Dündar, G. and Unutulmaz, A., “Routing Analog Circuits,” *Analog Layout Synthesis: A Survey of Topological Approaches*, pp. 149-201, 2010, Springer.

Publications in refereed journals

- Unutulmaz, A., Dündar, G. and Fernández, F.V., “On the Convex Formulation of Area for Slicing Floorplans,” *Integration, the VLSI Journal*, vol. 50, pp. 74-80, June 2015.
- Unutulmaz, A., Dündar, G. and Fernández, F.V., “Template coding with LDS and applications of LDS in EDA,” *Analog Integrated Circuits and Signal Processing*, vol. 78, no. 1, pp. 137-151, January, 2014.

Publications in refereed conference proceedings

- S. Malipatlolla, A. Unutulmaz, D. Helms and W. Nebel, “User dependent aging prediction model for automotive controllers with power electronics,” *Proc. IEEE 27th Int. Sym. on Power and Timing Modeling, Optimization and Simulation (PATMOS)*, Thessaloniki, 2017.
- Unutulmaz, A., Helms, D., Eilers, R., Metzdorf, M., Kaczer, B. and Nebel W., “Analysis of NBTI Effects on High Frequency Digital Circuits,” *Proc. Design, Automation and Test in Europe (DATE)*, Dresden, 2016.
- Berkol G., Unutulmaz A., Afacan E., Dündar G., Fernandez F.V., Pusane A.E., Başkaya F., “A two-step layout-in-the-loop design automation tool,” *Proc. New Circuits and Systems Conf. (NEWCAS)*, Grenoble, 2015.
- Unutulmaz, A., Dündar, G. and Fernández, F.V., “Area optimization on fixed analog floorplans using convex area functions,” *Proc. Design, Automation and Test in Europe (DATE)*, Grenoble, 2013.
- Unutulmaz, A., Dündar, G. and Fernández, F.V., “LDS based tools to ease template construction,” *Proc. Synthesis, Modeling, Analysis and Simulation Methods and Applications to Circuit Design (SMACD)*, Seville, 2012.
- Unutulmaz, A., Dündar, G. and Fernández, F.V., “LDS-A description script for layout templates,” *Proc. Circuit Theory and Design (ECCTD)*, Linköping, 2011.
- Unutulmaz, A., Dündar, G. and Fernández, F.V., “A template router,” *Proc. Circuit Theory and Design (ECCTD)*, Linköping, 2011.