



Ast. Prof. Dr. Ramazan KÖPRÜ
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Department of Electrical and Electronics Engineering

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1. Education:

Degree	Dept.	University	Year
Ph.D.*	Electronics and Comm. Eng.	Istanbul Technical Univ., Turkey	2009 - 2013
M.Sc.**	Electronics and Comm. Eng.	Istanbul Technical Univ., Turkey	1992 - 1994
B.Sc.	Electronics and Comm. Eng.	Yildiz Technical Univ, Turkey	1987 - 1991
High. School	Electronics Dept.	Haydarpaşa Technical High School, Istanbul, Turkey	1983 - 1987

2. Academic:

Title	Dept.	University	Year
Asst. Prof.	Electrical-Electronics Eng.	Işık Univ., Turkey	2014 - Present
Researcher	Electrical-Electronics Eng.	Işık Univ., Turkey	2012 - 2014

3. Supervised PhD Thesis:

Title: Co-Advisor - Asst. Prof. Dr. Ramazan Kopru

“High Performance Tunable Active Inductors for Microwave Circuits”, by Hadi Ghasemzadeh Momen, Electronics and Communications Engineering Dept., Istanbul Technical University, Turkey, Graduation date September 2016.

* Ph.D. Thesis: “A semi-analytic method to design wideband microwave amplifiers”, Electronics and Communications Eng. Dept., Istanbul Technical University, September 2013, Istanbul/Turkey.

** MSc. Thesis: “Computer aided high order OTA-C active filters using QUADs”, Electronics and Communications Eng. Dept., Istanbul Technical University, June 1994, Istanbul/Turkey.

4. Published Journal Papers (SCI, SCI Expanded, EI & Ulakbim):

- 4.1 Yarman, B. S., **Köprü, R.**, Kumar, N. and Prakash, C. (2014). “High Precision Synthesis of a Richards Immitance via Parametric Approach”. *IEEE Transactions on Circuits and Systems I, Regular Papers*, Vol. 61, No. 4, pp. 1055-1067, 2014.
- 4.2 **Köprü, R.**, Kuntman, H. and Yarman, B. S. (2013). “Novel approach to design ultra wideband microwave amplifiers: normalized gain function method”. Vol. 22, No. 3, pp. 672-686, September 2013, *Radioengineering*.
- 4.3 Nesimoğlu, T., Aydın, Ç., Atilla, D. Ç., **Köprü, R.**, and Yarman, B. S. (2013). “An Eclectic Approach to Design Tunable Amplifiers”. *RFMiCAE. International Journal of RF and Microwave Computer-Aided Engineering*, Vol. 23, issue 4, p.444-451, Wiley Periodicals Inc.
- 4.4 **Kopru, R.**, Kılınc, S., Aydın, Ç., Atilla, D. Ç., Karakuş, C., Yarman, B. S. (2014). “Ultra Wideband Matching Network Design for a V-Shaped Square Planar Monopole Antenna”, *International Journal of Microwave and Wireless Technologies*, Cambridge Univ. Press, published online on august 13-2014, volume 6, issue 06, pp. 555-564.
- 4.5 **Kopru, R.**, Kuntman, H., Yarman, B. S. (2014). "On Numerical Design Technique of Wideband Microwave Amplifiers Based on GaN Small-Signal Device Model", *Analog Integrated Circuits and Signal Processing, Springer*, Vol. 81, No. 1, pp. 71-87, published online on july 13, 2014.
- 4.6 **R. Köprü**, “FSRFT: Fast Simplified Real Frequency Technique Via Selective Target Data Approach for Broadband Double Matching”, *IEEE Transactions on Circuits and Systems II, Express Briefs*, Vol. 64, No. 2, pp. 141-145, Feb. 2017.
- 4.7 Cagatay Aydın, Doğu Çağdaş Atilla, **Ramazan Köprü**, Sedat Kılınc, Cahit Karakuş, Sıddık Yarman, “A Design Technique of 50 Ohm Terminated Bandpass Matching Network and Its Implementation to a Y-Shaped Monopole Antenna Matching”, *Analog Integrated Circuits and Signal Processing, Springer*, published online, June 2, 2016.
- 4.8 H.G. Momen, M. Yazgi, **R. Kopru** and A. Naderi, “Design of a New Low Loss Fully CMOS Tunable Floating Active Inductor”, *Analog Integrated Circuits and Signal Processing, Springer*, published online 27 june 2016, DOI: 10.1007/s10470-016-0784-3.
- 4.9 H.G. Momen, M. Yazgi, **R. Kopru**, “Low-loss active inductor with independently adjustable self-resonance frequency and quality factor parameters”, *Integration, the VLSI Journal, Elsevier*, accepted on 30 dec. 2016 and in-press, DOI: 10.1016/j.vlsi.2016.12.014.
- 4.10 H.G. Momen, M. Yazgi, **R. Kopru**, A. Naderi Saatlo. “An accurate CMOS interface small capacitance variation sensing circuit for capacitive sensor applications”, *Circuits, Systems and Signal Processing (CSSP)*, published online 8 Sep. 2017. DOI 10.1007/s00034-017-0657-8.

Published Journal Papers (EI-Engineering Index):

- 4.11 Binboga Siddik YARMAN, Ahmet AKSEN, **Ramazan KOPRU**, Narendra KUMAR, Cagatay AYDIN, Dogu Cagdas ATILLA, Prakash CHACKO, “Computer Aided Darlington Synthesis of an All Purpose Immitance Function”, *IU-JEEE Istanbul University Journal of Electrical and Electronics Engineering*, Vol. 16, No. 1, pp. 2027-2037, 2016.

Published Journal Papers (Tubitak Ulakbim Index of Turkey):

- 4.12 **Ramazan Kopru**, “FSRFT Based Broadband Double Matching via Passband Extremums Determination”, *BAJECE Balkan Journal of Electrical and Computer Engineering*, Vol. 6, No. 3, July 2018, pp. 20-26, DOI: 10.17694/bajece.421266.

5. Published International Conference Papers:

- 5.1 Köprü, R.,** Aydın, Ç., Atilla, D. Ç., Karakuş, C., and Yarman, B. S. (2013). “Wideband Matching Network Design For A V-Shaped Square Monopole Antenna Using Real Frequency Technique”. MMS2013 13th Mediterranean Microwave Symposium, The Lebanese-Institute of Technology, Saida, Lebanon, September 2-5.
- 5.2 Çağatay Aydın, Doğu Çağdaş Atilla, Oğuzhan Kızılbey, Ramazan Köprü,** Tayfun Nesimoğlu, B. S. Yarman (2013). “Design and Investigation of 12-50 Ohm Tunable Microstrip Impedance Transforming Filter”, MMS2013 13th Mediterranean Microwave Symposium, The Lebanese-Institute of Technology, Saida, Lebanon, September 2-5.
- 5.3 Köprü, R.,** Kuntman, H. And Yarman, B. S. (2013). “A Novel Method to Design Wideband Power Amplifier for Wireless Communication”. ISCAS2013, IEEE International Symp. On Circuits and Systems, May 19-23 Beijing, China.
- 5.4 Atilla, D. Ç., Aydın, Ç., Köprü, R.,** Nesimoğlu, T. And Yarman, B. S. (2013). “A Tunable Inductance Topology to Realize Frequency Tunable Matching Networks and Amplifiers”. ISCAS2013, IEEE International Symposium on Circuits and Systems, May 19-23 Beijing, China.
- 5.5 Köprü, R.,** Kuntman, H. And Yarman, B. S. (2012). “Design of an ultra wideband microwave amplifier using simplified real frequency technique”. MMS2012 12th Mediterranean Microwave Symposium, Doğuş University, Istanbul (Turkey), September 2-5.
- 5.6 R. Köprü,** H. Kuntman, B. S. Yarman, (2013). “2W Wideband Microwave PA Design for 824-2170 MHz Band Using Normalized Gain Function Method”, ELECO 2013, 8th International Conference on Electrical and Electronics Engineering, Bursa/Turkey, Nov. 28-30 2013.
- 5.7 A. N. Gönüleren, R. Köprü,** H. Kuntman, (1995). “Multiloop Feedback Bandpass OTA-C Filters Using Quads”, ECCTD’95 European Conference on Circuit Theory and Design, 27-31 August 1995, Istanbul, Turkey.
- 5.8 Köprü, R.,** Aydın, Ç., Yarman, B. S. (2014). “Bandpass network function realization in Richards domain and its application to UWB patch antenna matching”, submitted to *SIU-2014 (Signal Processing and Communications Applications Conference)*, Trabzon/Turkey, April 23-25, 2014, p. 713-717, <http://siu2014.ktu.edu.tr/index.html>.
- 5.9 Ramazan Köprü,** Sedat Kılınç, Ahmet Aksen, Bekir Binboğa Sıddık Yarman, “Design and Implementation of Wideband Microwave Amplifiers Based on Normalized Gain Function”, BenMAS2014, 2014 IEEE Benjamin Franklin Symposium on Microwave and Antenna Sub-Systems, Radar, Telecommunications, and Biomedical Applications, September 27, 2014, Philadelphia, Pennsylvania, USA, <http://www.benmas2014.org/>
- 5.10 Sedat Kılınç, Ramazan Köprü,** Bekir Binboğa Sıddık Yarman, “Design and Realization of Wideband Matching Networks in Richards Domain”, BenMAS2014, 2014 IEEE Benjamin Franklin Symposium on Microwave and Antenna Sub-Systems, Radar, Telecommunications, and Biomedical Applications, September 27, 2014, Philadelphia, Pennsylvania, USA.
- 5.11 Binboğa Sıddık Yarman, Ahmet Aksen, Ramazan Köprü,** Çağatay Aydın, Çağdaş Atilla, “Computer Aided High Precision Darlington Synthesis for Real Frequency Matching”,

BenMAS2014, 2014 IEEE Benjamin Franklin Symposium on Microwave and Antenna Sub-Systems, Radar, Telecommunications, and Biomedical Applications, September 27, 2014, Philadelphia, Pennsylvania, USA.

- 5.12 C. Karakuş, E. Bolcal, Ç. Aydın, D. Ç. Atilla, **R. Köprü**, B. S. Yarman, "Analysis of EM Sources Behavior in Closer Proximity", MMS2012 12th Mediterranean Microwave Symposium, Doğuş University, Istanbul (Turkey), September 2-5.
- 5.13 C. Karakuş, D. Ç. Atilla, Ç. Aydın, **R. Koprü**, B. S. Yarman, "Design of data communication antennas for high speed trains", MMS2012 12th Mediterranean Microwave Symposium, Doğuş University, Istanbul (Turkey), September 2-5.
- 5.14 **Ramazan Köprü**, Sedat Kılınç, Ahmet Aksen, B. S. Yarman. (2014). "Unit element bandpass filter design via simplified real frequency technique for UWB microstrip patch antenna", MMS2014 14th Mediterranean Microwave Symposium, Marrakech, Morocco, Dec. 12-14.
- 5.15 Sedat Kılınç, **Ramazan Köprü**, Ahmet Aksen, B. S. Yarman. (2014). "Mixed element wideband microwave amplifier design via simplified real frequency technique", MMS2014 14th Mediterranean Microwave Symposium, Marrakech, Morocco, December 12-14.
- 5.16 D. Ç. Atilla, Çağatay Aydın, Tayfun Nesimoğlu, **Ramazan Köprü**, Ahmet Aksen, B. S. Yarman. (2014). "Design of tunable amplifier using digital capacitors", MMS2014 14th Mediterranean Microwave Symposium, Marrakech, Morocco, December 12-14.
- 5.17 B. S. Yarman, Ahmet Aksen, **Ramazan Köprü**, Çağatay Aydın, D. Ç. Atilla (2014). "A high precision cascade synthesis technique for real frequency matching involving Brune and Darlington type-C sections", IEEE MMS2014 14th Mediterranean Microwave Symposium, Marrakech, Morocco, December 12-14. 2014.
- 5.18 **R. Koprü**, C. Aydın, D. C. Atilla, S. Kilinc, B. S. Yarman, "Wideband Bandpass Filter Design for X band Horn Antenna via Numerical Techniques", IEEE MMS2015 15th Mediterranean Microwave Symposium, Lecce, Italy, Nov. 30-Dec. 2, 2015.
- 5.19 C. Aydın, D. C. Atilla, C. Karakus, **R. Koprü**, B. S. Yarman, "Transformerless Bandpass Matching Network Design for Y-Shaped Monopole Antenna", 9th International Conference on Electrical and Electronics Engineering, ELECO 2015, Bursa, Turkiye, November 26-28, 2015.
- 5.20 Hadi Ghasemzadeh Momen, Metin Yazgi, **Ramazan Koprü**, "Designing a New High Q Fully CMOS Tunable Floating Active Inductor Based on Modified Tunable Grounded Active Inductor", 9th International Conference on Electrical and Electronics Engineering, ELECO 2015, Bursa, Turkiye, November 26-28, 2015.
- 5.21 Hadi Ghasemzadeh Momen, Metin Yazgi, **Ramazan Koprü**, "A Low Loss, Low Voltage and High Q Active Inductor with Multi-Regulated Cascade Stage for RF Applications", IEEE ICECS International Conference on Electronics, Circuits and Systems, Cairo, Egypt, December 6-9, 2015.
- 5.22 H. Y. Amin, S. Ozoguz, **R. Koprü**, B. S. Yarman, "Distributed wideband power amplifier using reactive coupled line feedback structure", 2nd Int. Conf. On Knowledge-Based Engineering and Innovation (KBEI), Nov. 5-6, 2015, Iran Univ. Of Science and Technology, Tehran, Iran. pp. 91-84.

- 5.23 H.G. Momen, M. Yazgi, **R. Koprü** and A. Naderi, “A New High Performance CMOS Active Inductor”, *TSP 2016-39th International Conference on Telecommunications and Signal Processing (TSP) - IEEE R8*, June 27-29 2016, Vienna, Austria, pp. 291-294.
- 5.24 H.G. Momen, **R. Koprü**, “A Method for Low-Pass Filter Designing by Commensurate Transmission Lines”, *TSP 2016-39th International Conference on Telecommunications and Signal Processing (TSP) - IEEE R8*, June 27-29 2016, Vienna, Austria.
- 5.25 H.G. Momen, M. Yazgi, **R. Koprü** and A. Naderi, “CMOS High-Performance UWB Active Inductor Circuit”, *PRIME 2016-12th Conference on PhD Research in Microelectronics and Electronics*, June 27-30 2016, Lisbon, Portugal.
- 5.26 **R. Koprü**, D. Ç. Atilla, Ç. Aydın, S. Kilinc, B. S. Yarman, “Design and realization of 8-12 GHz cascaded unit element microstrip filter for X-band”, *IEEE MMS2016 16th Mediterranean Microwave Symposium*, Abu Dhabi, UAE, November 14-16. 2016.
- 5.27 **R. Koprü**, “Broadband Matching for X-band MMIC to PCB Transition”, *ICENTE'18 - International Conference on Engineering Technologies*, October 26-28, Konya, Turkey.

6. Published National Conference Papers:

- 6.1 **R. Köprü**, H. Kuntman, A. Aksen, B. S. Yarman, (2013). “Kablosuz Haberleşme İçin Yeni Bir Genişband Mikrodalga Yükselteç Tasarım Yöntemi”, *ASELSAN* Haberleşme Teknolojileri Çalıştayı*, Kasım. 18-19 2013, Ankara, Türkiye.
* ASELSAN T.A.Ş. : Turkish Army Defence Electronic Industries, Turkey:
www.aselsan.com.tr
- 6.2 D. Ç. Atilla, Ç. Aydın, T. Nesimoğlu, **R. Köprü**, A. Aksen, B. S. Yarman (2013). *Ayarlanabilir Mikrodalga Uyumlaşma Devresi ve Yükselteç Tasarımı*. ASELSAN Haberleşme Teknolojileri Çalıştayı, Kasım. 18-19 2013, Ankara, Türkiye.
- 6.3 **Ramazan Köprü**, Sedat Kılınç, Bekir Binboğa Sıddık Yarman, “Matching Network Design for Microstrip Patch Antenna Using Real Frequency Techniques”, *URSI 2014, International Union of Radio Science, National General Assembly*, Aug. 28-30, 2014, Fırat University, Elazığ, Turkey, <http://www.ursi.org.tr/>
- 6.4 Sedat Kılınç, **Ramazan Köprü**, Bekir Binboğa Sıddık Yarman, “Synthesis of a wideband impedance matching network in Richards domain with commensurate transmission lines”, *URSI 2014, International Union of Radio Science, National General Assembly*, Aug. 28-30, 2014, Fırat University, Elazığ, Turkey.

7. Research Projects:

- 7.1 *Senior Researcher*: “Development of Semi-Analytic Techniques to Design Wideband Microwave Amplifiers and an Amplifier Production”. Tubitak ARDEB project code 112E238, Apr. 2013 – Oct. 2015. (Tubitak: The Scientific and Technological Research Council of Turkey).
- 7.2 *Project Director*: “Development of Design and Synthesis Package for Microwave Circuits With Optimum Topology Using Unit Elements”, Tubitak TEYDEB project code 7141399, Jan. 2015 – June 2016.

- 7.3** *Project Director:* “Wideband Microwave Patch Antenna and Matching Network Design Using Numerical Methods”. Işık University BAP project code 14B703, Jan. 2015 – Jan. 2017. (BAP: Scientific Research Projects Unit).
- 7.4** *Senior Researcher:* “Design of wideband microwave amplifiers using semi-analytic methods”, Istanbul University BAP project 18549, Nov. 2011-Nov. 2014.
- 7.5** *Project Director:* “Development of Wideband Microwave Amplifier Design Package and Amplifier Production”, supported by ‘Science, Industry and Technology Ministry of Turkey’ and ‘Istanbul Teknopark A.Ş. Incubator Center,’. Project code 029473, April 2014 – June 2015.

8. Scientific and Professional Membership:

Institute of Electrical Electronics Engineers (IEEE).

9. Awards and Honours:

MSc. Scholarship (1994-1996), from Erdemir Iron and Steel Works TAŞ., Kdz. Ereğli, Turkey.

10. Courses Taught

10.1 Undergrad Courses* Taught (lecturer):

Code	Course Name	Academic Year	Term
EE404	Energy Distribution Systems	2017/18	Spring
EE444	Microcontroller Based System Design and Control	2017/18	Spring
EE402	High Voltage Techniques	2017/18 2018/19	Fall Fall
EE353	Signals and Systems	2016/17	Summer
EE225	Electrical Circuits	2016/17 2017/18	Spring Fall
EE335	Electronics	2016/17 2017/18 2018/19	Fall, Spring Fall Fall
EE339	Fund. of Electrical and Electronics Engineering	2015/16 2016/17 2017/18 2018/19	Fall Fall Fall Fall
EE222	Circuit Theory II	2015/16 2014/15 2018/19	Summer Summer Summer
EE334 EE337	Electronics Lab.	2014/15, 2015/16 2014/15, 2015/16, 2016/17 2018/19	Spring, Fall Fall, Spring, Fall Fall
EE224 EE227 EE227	Electric Circuits Lab.	2014/15, 2015/16, 2016/17 2014/15, 2015/16 2015/16	Spring, Spring, Spring Fall, Spring, Spring Fall

* Işık University Electrical-Electronics Engineering Dept.

10.2 PhD Course* Taught (assistant lecturer):

Course Name: Advanced Topics in Electronics.

Microwave theory and techniques to design broadband impedance matching networks and amplifiers using RFTs -Real Frequency Techniques-. (Fall & Spring-2012, Fall & Spring-2013, Spring-2014).

* Istanbul Technical University, Electronics and Communications Engineering Dept.

11. Journal (SCI/SCI-Exp.) Paper Reviews

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- 11.1** International Journal of Microwave and Wireless Technologies (SCI-Exp.), (1-2014, 1-2015)
11.2 Turkish Journal of Electrical Engineering & Computer Sciences (SCI-Exp.), (3-2015, 1-2016)
11.3 IEEE Transactions on Circuits and Systems I, Regular Papers (SCI), (1-2016, 1-2017, 2-2018)
11.4 International Journal of Electronics Letters (SCI-Exp.), (1-2015)
11.5 IEEE Transactions on Circuits and Systems II, Express Briefs (SCI), (1-2016, 1-2017, 1-2018)
11.6 Microelectronics International (SCI-Exp.), Emerald Group Publishing, (1-2017)
11.7 DEÜ (Dokuz Eylül Univ.) Fen ve Mühendislik Dergisi, (1-2017)
11.8 AEU-International Journal of Electronics and Communications (SCI-Exp.), (1-2017)
11.9 International Journal of Electronics (SCI), (1-2017)
11.10 Analog Integrated Circuits and Signal Processing-ALOG (SCI), (1-2018)
11.11 IEEE Access, (1-2018)
11.12 Journal of Circuits Systems and Computers (SCI-Exp.), (2-2018)
11.13 Neural Computing and Applications (SCI-Exp.), (1-2018)
11.14 International Journal of Circuit Theory and Applications (SCI-Exp.), (1-2018)
Total: 24

12. Other Reviewer Activities

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- 12.1** **Project Evaluation Referee:** “13th Innovativity and Creativity Awards”, TESID (Turkish Electronics Industrialists Association), Jan. 2015, Istanbul, Turkey.
12.2 **Panelist:** '2016-1-New Generation Network Technologies 1st Panel', TUBITAK EEEAG – Electrical, Electronics, Informatics and Research Group, Ankara, Turkey.

13. Conference Tasks

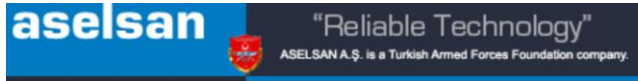
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- 13.1** **Session Chairman:** Session LA3-High Frequency Electronics in ELECO 2015, 9th International Conference on Electrical and Electronics Engineering, Bursa, Türkiye, Nov. 26-28, 2015.
13.2 **Member of the Technical Committee:** EMC 2013-2. National EMC (Electromagnetic Compatibility) Conference, September 9-11, 2013, IŞIK University, Maslak, Turkey.
13.3 **Technical Program Committee Member (TPCM):** MMS-2018, Mediterranean Microwave Symposium, to be held in Istanbul, Turkey.

14. Foreign Language (English)

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- 14.1** School of Foreign Languages for Master Preparation - (Level: Upper-B), Istanbul Technical University, Gumussuyu Campus, Istanbul, Turkey, 1991-1992.
14.2 YDS fall-2016 - Level: Upper-B, Nationwide Foreign Language Exam organized by YOK (Higher Education Council of Turkey)

15. Other Professional Documents/Books

- 15.1** Ramazan Köprü, “ASELSAN** HEWS Program LWR (Laser Warning Receiver) Sensor Unit Band I-II Card Sub System Detailed Design Document”, 115 pages, October 2007, company-specific document, Pavotek Electronic Design and Manufacture Inc., <http://www.pavotek.com.tr>
 * This project has been completed and currently in production stage, please see: <http://www.aselsan.com.tr/en-us/capabilities/electro-optic-systems/air-platforms/lias-laser-warning-receiver-system> **ASELSAN: Turkish Army Defence Electronic Industries, www.aselsan.com.tr



LIAS - Laser Warning Receiver System

ASELSAN > Capabilities > Electro Optic Systems

LIAS is an advanced threat warning system to detect, classify, identify and give warning of hostile laser threats aiming on the platform, in a very short time with high sensitivity. LIAS can activate the countermeasure systems available on the platform either directly or via a host computer.

LIAS is designed to detect almost all types of laser threats available in the world military inventory. Laser Range Finders (LRF), Laser Designators (LD) and Laser Beam Riders (LBR) threats operating on various optical bands can be detected by the system.



16. Skills

		level
1	Matlab, Mathematica, Microwave Sim. (MWO, ADS, HFSS)	good
2	VNA (Network Analyser), Spectrum Analyser, NVNA (Non-Linear Network Analyser, Agilent PNA-X, ITU VLSI and RF Labs.)	good, good, beginner.
3	Microwave circuit prototyping on FR4 and RT5870	good
4	Wideband microwave amplifier design using GaN transistor (Triquint, Cree) model (Modelithics) and prototyping.	expert
5	Wideband microwave filter, matching network design, lumped and distributed synthesis techniques in Matlab, microwave amplifier design (theory, simulation, production), X-band cascaded UE filter design/production, patch antenna.	expert
6	Optimization methods (Matlab): lsqnonlin, fminsearch, particle-swarm optimizations, Levenberg-Marquardt.	good
7	Embedded system hw/sw design (Atmel 8052, Philips 80C51XA-16 bit, TI MSP430, PIC, Silabs, Motorola) for 1 phase/3-phase electricity meters, 1 to 100 kVA low-medium-high power UPS (uninterruptible power supply) control hw/sw., smart home using Zigbee, personnel attendance system using proximity cards, computer and microcontroller based high voltage corona discharge system for plastic industry.	expert

17. Research Interests

- Broadband matching theory and techniques using Real Frequency Techniques (RFTs).
- Microwave lumped and distributed domain filter/matching network design
- High precision lumped and distributed synthesis of matching networks
- Wideband microwave FFGA (Feedback Flat Gain Amp.) design procedure using RFTs.
- Matlab coding for wideband microwave amplifier and matching network design using nonlinear optimization algorithms: Search, gradient and Particle-Swarm optimization methods
- Wideband microwave power amplifier design based on nonlinear behavioral models (X-Parameters) of GaN transistors (Cree, Triquint) and prototyping activities.
- Tunable microwave wideband matching network and amplifier design.
- “FSRFT-Fast Simplified Real Frequency Technique” and its applications to design RF/microwave filters, matching networks, linear/power amplifiers.
- Design of multi-loop feedback high order OTA-C active filters using Quads.

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- Military spec low-noise analog design with high speed opamps, comparators and laser detectors and prototyping for using in laser signal detection and post-processing.
 - Power electronics: embedded hw/sw design for UPSs, corona discharge control system design.
 - Future interests: Nanotechnology (nano, atomic transistors), RF/microwave/mmWave MMICs.

18. Some Past Professional Experience

ERDEMIR TAS. (*7000)	Electronics and Instrumentation Engineer, Distributed Control Systems, PLCs, X-ray thickness measurement systems, CIM (capacity improvement and modernization) project (the largest Iron and Steel Company of Turkey, (1994-1996).
EKA AS. (*250)	Embedded Designer for 2, 10, 100 kVA Uninterruptable Power Supply Control Systems, (1998-2000).
PAVO AS. (*250)	Analog Design Engineer in Laser Warning Receiver System (Aselsan LIAS project), (2006-2010)

* Shows the number employee in the company.