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Summary Of Qualifications

Expert on RF and Propagation Aspects of Radio/Mobile Communications, Radar and Electronic Warfare Systems, Virtual and Remote Laboratories (VRL) in Engineering Education

Education

Ph.D. in Institute of Natural and Applied Science Major: Electrical and Electronics Engineering Hacettepe University Ankara, Turkey <i>Co-supervisor: Henry L. Bertoni (Polytechnic University, NY, USA)</i>	1996-2002
Master of Science(MSc) in Institute of Natural and Applied Science Major: Electrical and Electronical Engineering Çukurova University Adana, Turkey	1993-1996
Language School Çukurova University Adana, Turkey	1992-1993
Bachelor of Science(BSc) in Electronics Engineering Erciyes University Kayseri, Turkey	1988-1992

Professional Experience

Atılım University Department of Electrical and Electronics Engineering Ankara, Turkey <i>Associate Professor</i>	04/2010~
Arlentus Kontrol Ankara, Turkey <i>Consultant</i>	11/2013~
ARDA Makina & Elektrik Ankara, Turkey <i>Consultant</i>	12/2012 11/2013
Scientific and Technical Research Council of Turkey (TÜBİTAK) National Electronics and Cryptography Research Institute (UEKAE) Ankara, Turkey	08/2006 08/2012

<i>Chief Researcher on Radar and Electronic Warfare Projects (Part Time)</i>	
Atılım University Department of Electrical and Electronics Engineering Ankara, Turkey <i>Assistant Professor, (Founding Chair)</i>	11/2002 04/2009
Atılım University Department of Electrical and Electronics Engineering Ankara, Turkey <i>Instructor</i>	09/2000 11/2002
Polytechnic University Department of Electrical and Computer Engineering New York, USA <i>Research Fellow</i>	01/2000 07/2000
Dumlupınar University Department of Electrical and Electronics Engineering Kütahya, Turkey <i>Teaching/Research Assistant</i>	09/1996 12/1999
Çukurova University Department of Electrical and Electronics Engineering Adana, Turkey <i>Teaching/Research Assistant</i>	08/1993 09/1996

Teaching Experience

- Engineering Fundamentals (EE 101)
- Introduction to Electrical and Electronics Engineering (EE 102)
- Probability and Random Processes (EE 204)
- Engineering Electromagnetics (EE 309)
- RF and Microwave Engineering (EE 310)
- Communication Systems (EE 303)
- Digital Communications (EE 401)
- Wireless Communications (EE 402)
- Radar Systems (EE 404)
- Undergraduate Research Project (EE 400)
- Design Projects I/II (EE 491/92)
- Introduction to Electronic Warfare Systems (EE 542)
- Radar Signal Processing (EE 545)
- Applications of Communications and Signal Processing (EE 572)

Thesis Advisory (Completed)

1. Signal and System Level Simulations on Wideband Intercept Receivers (İlter Karadede, 2014)
2. Determination of Scattering Center of Multipath Signals Using Geometric Optics and Fresnel Zone Concepts (Kamil Yavuz Kapusuz, 2013)
3. Towards Real Time Implementation of Specific Emitter Identification on Pulse Waveforms: Optimizations on a Low Cost Commercial Platform (Cihangir Erdem, October 2012)
4. Localization of Emitters over and around Sea Surfaces (Yaser Dalveren, August 2011)
5. A Study on Identification of Radar Emitters (Mustafa Aslanbek Kılınçarslan, April 2011)

6. Performance Benchmarking of Cellular Network Operators in Turkey (Rana Kadioğlu, October 2010)
7. Development of an Improved Algorithm for Multiple Diffraction in Urban Radio Propagation (Mehmet Barış Tabakçioğlu, June 2009)
8. Development of a Wireless Transmission Module for MODBUS Applications (Osman Türkkkan, February 2008)

Projects

Title(Sponsor)	Position	Year
Design of a Low Cost Wireless Data Collection, Monitoring and Recording System (Arlentus Kontrol/Atılım University-LAP)	Advisor/Mentor	11/2013~
Teaching Methods for Heterogeneous Classes-Cooperative Problem Solving (Atılım University-BAP)	Principal Investigator	02/2013~
Design and Development of a Desktop Accessory using Android Open Accessory API (Atılım University-LAP)	Co-Advisor	11/2012 07/2013
Design of Crane Control System for Dense Interference Environments (ARDA Makina&Elektrik/Atılım University-LAP)	Mentor/ Supervisor	11/2012 07/2013
User Interface Design for Virtual and Remote Laboratories, Undergraduate Research Project (Atılım University)	Mentor /Advisor	11/2011 07/2012
F16-AN/ALQ Pre-Flight Mission Generator Software (BİLGEM/UEKAE)	EW Consultant	10/2006 09/2009
Integrated EW Database Development (BİLGEM/UEKAE)	EW Consultant	09/2006 05/2010
Development of Effective Pulse De-interleaving and Emitter Identification Techniques for ESM Systems (BİLGEM/UEKAE)	Principal Investigator	08/2007 09/2008
European Remote Radio Laboratory (European Commission)	Coordinator	11/2006 12/2008
Development of Radio propagation Model based on Slope Diffraction and Convex Hull techniques (TÜBİTAK)	Principal Investigator	06/2006 12/2008
Interference Evaluation between WLAN and Bluetooth (Symbol Technologies/Motorola)	Investigator	01/2000 07/2000

Publications

Journal publications (SCI Indexed)

1. Cigdemoglu, C., Kapusuz, K.Y., Kara, A., Heterogeneity in Classes: Cooperative Problem-Solving Activities through Cooperative Learning, Croatia Journal of Education (accepted).
2. Kadioğlu, R., Dalveren, Y., Kara, A., Quality of Service Assessment: A Case Study on Performance Benchmarking of Cellular Network Operators in Turkey, Turkish Journal of Electrical Engineering & Computer Sciences (to appear)
3. Kara, A., Dalveren, Y., Cagiltay, N., An Enhanced Course in Digital Communications, International Journal of Engineering Education, Vol.30, No.4, 1048-1059 (2014).
4. Cagiltay, N.E, Aydin, E.,Aydin, C. C., Kara, A. and Alexandru, M., “Seven Principles of

- Instructional Content Design for a Remote Laboratory: A Case Study on ERRL”, IEEE Trans. on Education, 54, 2, 320-327 (2011).
5. Tabakcioğlu, M.B. ve A. Kara, “Improved Slope Diffraction Method for Multiple Wedges”, Electromagnetics, 30, 285-296 (2010).
 6. Tabakcioğlu, M.B. ve A. Kara, “Comparison of Improved Slope UTD Method with UTD based Methods and Physical Optic Solution for Multiple Building Diffractions”, Electromagnetics, 29, 303-320 (2009).
 7. Kara, A., “Human Body Shadowing Variability in Short Range Indoor Radio Links at 3-11 GHz”, Int. Journal of Electronics, 96, 205-211 (2009).
 8. Çağıltay, N.E., Aydın, E.U., Öktem, R., Kara, A., Alexandru, M., Reiner, B., “Requirements on Remote RF Laboratory Applications: An Educators’ Perspective”, IEEE Trans. on Education, 52, 75-81 (2009).
 9. Kara, A. ve H.L. Bertoni, “Effect of People Moving Near Short- Range Indoor Propagation Links at 2.45 GHz”, Journal of Communications and Networks, 8, 286-289, (2006).
 10. Serbest, A.H., Kara, A., Lüneburg, E., "Scattering of Plane Waves at the Junction of Two Corrugated Half-Planes", Electromagnetics, 25, 21-38 (2005).
 11. Kara, A., Bertoni, H.L., ve Yazgan, E., "Limit and Application Range of Slope Diffraction for Wireless Communications systems", IEEE Trans. on Antennas and Prop., 51, 2512-2514 (2003).
 12. Kara, A., ve Yazgan, E., "Roof Shape Modelling for Multiple Diffraction Loss in Cellular Mobile Communication Systems", Int. Journal of Electronics, 89, 753-758 (2002).
 13. Büyükaksoy, A., Serbest, A.H., Kara, A., “Diffraction coefficient for a half-plane with anisotropic conductivity”, IEE Proc. Science Measurement and Tech., 143, 384-388 (1996).

Journal publications (Other Indexes)

1. Kapusuz, K.Y., Kara, A., „Determination of scattering center of multipath signals using geometric optics and Fresnel zone concepts”, Engineering Science and Technology, an International Journal, Vol.17., 50-57 (2014).
2. Dalveren, Y., Kara, A., “On the Design of Elective Courses in RF and Communications According to the Needs of Industry“, Procedia - Social and Behavioral Sciences, Vol.46, 1547 – 1551 (2012).
3. Kara, A., ve E. Yazgan, “ Modelling of Shadowing Loss for Huge Non-Polygonal Structures in Urban Radio Propagation”, Progress in Electromagnetic Research-B, 6, 123-134 (2008).
4. Çağıltay, N., Aydın, E.U., Kara, A., “Remote RF Laboratory Requirements: Engineers’ and Technicians’ Perspective”, Turkish Online Journal of Distance Education (TOJDE), 8, 80-95 (2007).

Conference publications (National/International)

1. Dagdeviren, B., Kapusuz, K.Y., Kara, A., „A Modular FMW Radar RF Front End design: Simulation and Implementation“, IEEE 22nd Signal Processing and Communications Applications Conference (SIU 2014), pp.1762-1765, Trabzon (2014).
2. Kapusuz, K.Y., Kara, A., „An Industry Sponsored Undergraduate Research (UR) Experience: Preliminary Study on Fulfillment of Program Outcomes and Industry Requirements“, 2014 IEEE Global Engineering Education Conference (EDUCON), 306-311, İstanbul (2014).
3. Kaynakoz, G., Dagdeviren, B., Kapusuz, K.Y., Kara, A., „ Development of a Low Cost radio Controller for Tele Operation Systems: Crane Controller design as an Industry Sponsored Undergraduate Research“, The 20th Int. Conf. on Mechatronics and Machine Vision in Practice (M2ViP, Sept., Ankara (2013).
4. Danaci, S., Gurtekin, E., Ozyurt, E., Kara, A., "Design and Fabrication of Ka Band Circular Horn Antenna", IEEE 20th Signal Processing and Communications Applications Conference (SIU 2012), 1-4, Mugla, Turkey, 2012.
5. Erdem, C., Kara, A., "Specific Emitter Identification Using Video Signals", IEEE 20th

- Signal Processing and Communications Applications Conference (SIU 2012), 1-4, Mugla, Turkey, 2012.
6. Karadede, I., Kara, A., "Signal and System Level Simulations for Wideband Intercept Receivers: Eliminating Spur Signals", 9th International Conference On Electronics, Computer And Computation, Vol.1, 215-219, Ankara, Turkey, 2012.
 7. Ozyurt, E., Kilic, N.K, Kara, A., "User Interface Design Of Oscilloscopes For Use In Virtual And Remote Laboratories", 2nd International Engineering Education Conference, vol.1., 155-158, Antalya, Turkey, 2012.
 8. Kapsuz, Y.K., Kara, A., "Cooperative Problem Solving As A Learning Approach In Heterogeneous Classes: A Preliminary Study" , 2nd International Engineering Education Conference, vol.1., 30-33, Antalya, Turkey, 2012.
 9. Dalveren, Y., Kara, A., "On The Requirements Of Industry On Rf And Communication Graduates: Comparison Of Local/National And International Market", 2nd International Engineering Education Conference, vol.1., 334-338, Antalya, Turkey, 2012.
 10. Dalveren, Y., Kara, A., "Classification of Objects Over and Around Sea Surface for Passive Geolocation", IEEE 12th Mediterranean Microwave Symposium(MMS 2012) , vol.1., 1-4, Istanbul, Turkey, 2012.
 11. Kapsuz, Y.K., Kara, A., "Deniz Yüzeyi ve Çevresindeki Saçıcıların Bistatik Saçılma Katsayısının Kutuplanma ve Saçılma Açısına Bağımlılığının İncelenmesi", 6. URSI Konferansı (URSI 2012) , vol.1., 1-4, İstanbul, Turkey, 2012.
 12. Kilincarslan, M.A., Kara, A., "Identification of Highly Jittered Radar Emitters:Issues on Low Cost Embedded Design", International Conference on Computing and Information Technology (ICIT-2012), Vol. 2, p. 739-744, Medinah, Saudi Arabia, 2012.
 13. Kara, A., Cagiltay, N., Dalveren, Y., "Development of A Digital Communications Course Enriched by Virtual and Remote Laboratory Tools", IEEE 10th Conf. on Information Technology Based Higher Education and Training (ITHET 2011), 1-4, Kusadasi, 2011.
 14. Cagiltay, N. Aydin, E., Kara, A., Erdem, C., Ozbek, M.E., "Virtual or Remote Laboratory Why?", World Conference on Educational Multimedia, Hypermedia and Telecommunications, pp. 3772-3777, 2011.
 15. Kara, A., Ozbek, M.E., Cagiltay, N., Aydin, E., "Maintenance, Sustainability and Extendibility in Virtual and Remote Laboratories“, World Conf. On Educational Technology Researches, 1-4, Cyprus, 2011.
 16. Turkkan, O., Kara, A., Dalveren, Y., "Design of a Low Cost Wireless Transmission Module", Int. Conf. on Wireless Communications and Mobile Computing, 1-4, Istanbul, 2011.
 17. Kara, A., Erdem, C., Özbek, M.E., Cagiltay, N., Aydın, E., “A web Based Training Module for Teaching Digital Communications: Content Design“, Int. Engineering Education Conference, Antalya, 2010.
 18. Erdem, C., Özbek, M.E., Kara, A., Çağiltay, N., Aydın, E., “Web tabanlı Sayısal Haberleşme Sistemi Eğitim Sistemi Geliştirilmesi: Teknik Boyut“, URSI Ulusal Kongresi, Kıbrıs, 2010.
 19. Ortaovalı H., Çelebi M.B., Akar B., Uyar E., Kartal Y., Kara A., Yürekten Ö., Tümay A., Dinçer K., “ED Sistemleri için Etkin Darbe Ayrıştırma ve Tehdit Kimliklendirme Algoritması Geliştirilmesi”, 5. Savunma Teknolojileri Kongresi, Ankara, 2010.
 20. Kara, A., Aydin, E., Ozbek. M.E., and Cagiltay, N., “Design and Development of a Remote and Virtual Environment for Experimental Training in Electrical and Electronics Engineering”, IEEE 9th Int. Conf. On Information Technology Based Higher Education and Training (ITHET 2010), 194-200, Cappadocia, 2010.
 21. Ozbek. M.E., Atas, M., and Kara, A., “ Software Technologies, Architectures and Interoperability in Remote Laboratories”, IEEE 9th Int. Conf. On Information Technology Based Higher Education and Training (ITHET 2010), 402-406, Cappadocia, 2010.
 22. Cagiltay, N., Aydin, E., ve Kara, A., “Principles for the Design of a Remote Laboratory: A Case Study on ERRL”, IEEE Engineering Education 2010 – The Future of Global Learning in Engineering Education, IEEE EDUCON 2010, Madrid, Spain, April 2010.

23. Akar, B., Günalp, K., Yürekten, Ö., Kara, A., Tümay, A., and Dinçer, K., “ Sarf Edilebilir Karşı Tedbir Atım Sisteminin Etkinliğinin Arttırılması”, 3. Ulusal Savunma Uyg. Modelleme ve Simülasyon Konf. (USMOS), 1-9, Ankara, 2009.
24. Tabakcioglu, M.B., Özmen A., ve Kara, A., “Karasal Yayıncılıkta Kapsama Alanı Kestirimi için Işın İzleme Tekniğine Dayanan Hızlı Yayılım Modeli Geliştirilmesine Yönelik Bir Çalışma”, IEEE 17. Sinyal İşleme ve İletişim Uygulamaları Kurultayı, 169-173, Antalya, 2009.
25. Çelebi M.B., Kara, A., Akar, B., Tümay, A., Dinçer, K., “ ED Sistemlerinde Kalman Filtre Kullanarak Tehdit İzlemede Yeni Bir Yaklaşım”, IEEE 17. Sinyal İşleme ve İletişim Uygulamaları Kurultayı, 173-176, Antalya, 2009.
26. Aydın, C. C ., Türkmen, G., Özyurt,E., Aydın, E., Cagiltay, N., Özbek, M. E., Kara, A., “Uzaktan Laboratuvar Uygulamaları ERRL: Elektronik Alanında Radyo Haberleşmesi Üzerine Bir Çalışma”, 2nd International Future-Learning Conference On Innovations in Learning for the Future 2008 : e-Learning, Turkish Informatics Foundation Distance Learning Platform (UzEP),İstanbul, Türkiye, March 2008.
27. Kara, A., Kara, A.G., Aydın, C.C., Aydın, E., Cagiltay, N.E. “What Do Remote Laboratory Applications Promise for Engineering Students: A Case Study of ERRL Project”, Bilişim Teknolojileri Işığında Eğitim Konferansı bildiri kitapçığı , sayfa 41-45, Ankara, Türkiye, Kasım 2008.
28. Tabakcioglu, M.B. and Kara, A., “Discussions of Various UTD and PO Solutions for Multiple-Edge Diffractions in Urban Radio Propagation Modeling”, Vth International Workshop on Electromagnetic Wave Scattering, 11, 1-6, Antalya, 2008.
29. Aydın, C.C., G. Türkmen, E. Özyurt, E.U. Aydın, N.E. Çağiltay, M.E. Özbek, N.C. Alparslan, ve A. Kara, “Distance laboratory applications ERRL: A study on radio communication in electronic field”, IEEE 11th International Conf. on Optimization of Electrical and Electronic Equipment, Brasov, Romania, 157-162, IEEE, 2008.
30. Tabakcioglu, B. ve A. Kara, “On the Improvements in Multiple Edge Transition Zone Diffraction”, European Conf. on Antennas and Prop.(EuCAP), Edinburgh, 1-5, IEEE/IEE, 2007.
31. Kara, A., E.U. Aydın,R. Öktem, N. Çağiltay, “A Remote Laboratory for Training in Radio Communications: ERRL”, IEEE 18th International Symposium on Personal, Indoor and Mobile Radio Communications(PIMRC), Athens, 1-4, IEEE, 2007.
32. Özen, M., E.U. Aydın ve A.Kara, “Pilot Remote Experiment in the ERRL: Measurement of Scattering Parameters”, IEEE 18th International Symposium on Personal, Indoor and Mobile Radio Communications(PIMRC), Athens, 1-5, IEEE, 2007.
33. Vural, M.D, M. Yıldız ve A. Kara, "Measurement of Local Environmental Effects in UWB Channels", European Conf. on Antennas and Prop. (EuCAP), Nice, 1-4, IEEE/IEE, 2006.
34. Kara, A. ve H.L. Bertoni, “Blockage/shadowing and polarization measurements at 2.45 GHz for interference evaluation between Bluetooth and IEEE 802.11 WLAN”, IEEE Antennas and Propagation Society International Symposium(APS/URSI), Boston, Vol. 3, 376-379, IEEE, 2001.
35. Kara, A. ve E. Yazgan, “UTD-based propagation model for the path loss characteristics of cellular mobile communications system”, IEEE Antennas and Propagation Society International Symposium(APS/URSI), Orlando, Vol. 3, 392-295, IEEE, 1999.

Book chapters

1. Aydın, E., Caglar, M.F., Kara, A., Antenna Theory: Analysis and Design (çeviri), Nobel Publications, Turkey, 2013.
2. Alexandru, M., Kara,A., Aydın, E., ve Yapıcı, “Communications, RF and Microwaves Fundamentals: From Theory to Remote Experimentations”, Published by Transilvania University of Brasov, Romania, 2009.