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| --- | --- |
| Objective | Research and development position for solving challenging  problems in RF design, microwaves/millimeter waves, antennas,  wireless communication, electromagnetics. |
| Experience | Nov.2012 – current **Sabancı University, Electronics Engineering**,  Orhanlı 34956 Tuzla İstanbul, Turkey  Professor of EE  Feb. 2010 –2012 **Sabancı University, Electronics Engineering**,  Orhanlı 34956 Tuzla İstanbul, Turkey  Assoc. Professor of EE  Feb .2009 – Jan. 2010 On Sabbatical Leave to  **New Jersey Institute of Technology**, Electrical Engineering, New Jersey, USA (Visiting Professor)  **NYU Poly**, Electrical Engineering, NY, USA  (Visiting Professor)  **IHP,** Frankfurt(Oder), Germany (Visiting Scientist)  Sept.2000 – Nov. 2006 **Sabancı University, Electronics Engineering**,  Orhanlı 34956 Tuzla İstanbul, Turkey  Assistant professor of EE  Sept.1997 – Sept. 2000 **Lucent Technologies, Bell Laboratories**,  Whippany, New Jersey, USA  Researcher (RF engineering)  Sept.1993 – Sept. 1997 **The Ohio State University - ElectroScience Laboratory**  Columbus, USA  Graduate Research Associate  July 1990-July 1993 **Middle East Technical University, Electrical and Electronics Engineering**, Ankara, Turkey |
| Education | **Ph.D., Electrical Engineering, The Ohio State University**,  Columbus, OH., December 1997 GPA : 4.0/4.0  Dissertation: Method of Moments solutions for wire/plate and  wire/material junction problems  (Advisor: Prof. E.H. Newman)  Concentration in Electromagnetics, Communications and Mathematics.  **M.S., Electrical and Electronics Engineering, Middle East**  **Technical Univ**., Ankara, Turkey, June 1992 GPA : 4.0/4.0  Thesis: Simultaneous frequency and direction finding using  phase and frequency scanning antenna arrays  (Advisor : Prof. A. Hızal)  Concentration in Electromagnetics, Linear Systems.  **B.S., Electrical and Electronics Engineering, Middle East**  **Technical Univ**., Ankara, Turkey, June 1990  Class Rank: 4/320, GPA : 3.84/4.0 |
| Awards | Middle East Technical University M. Parlar M.S. Thesis award, 1992  The Ohio State University, Graduate Research Assistantship (1993-1997)  Associate Professorship awarded by higher education council (YÖK), Nov. 2006  IEEE Senior membership, March 2009. |
| Computers | ADS, HFSS, CST, AWR, FORTRAN, Matlab. |
| Professional memberships | - Member of the IEEE, Vice-chair of IEEE Turkey (2004-2010)  - Member of the IEEE Antennas and Propagation Society  - Member of the IEEE Microwave Theory and Tech. Society  - Member of IEEE Communications Society  - Vice-chair of IEEE Turkey  - Chair of IEEE Turkey AP/MTT/EDS/EMC societies (2004-2010) |
| Work Experience | **Sabancı University, Faculty of Engineering, Istanbul, TURKEY**  12/12- present Prof. in Electronics Engineering  - Millimeter wave antennas and LNA, phase shifters – 75-110 GHz  - Milimeter wave arrays and beam steering for 5G  - 77 GHz automotive radar receiever front-ends  - RFIC on-chip antenna implementation/simulation and measurements  - Wide band antennas for 5G full-duplex communications  - Millimeter wave active and MEMS based phase shifters  10/06 – 11/12 Assoc. Prof. in Electronics Engineering  - RFIC LNA, VCO, PA circuits for WiMAX applications  - X band LNA, phase shifter design  - RFID technology reader array antenna implementation  - RFIC on-chip antennas  - GPS antennas and repeater for indoor positioning systems  09/00-10/06 Asst. Prof. in Telecommunications  - Started the RF/Wireless Laboratory  - Designed many UWB, mmwave antennas and circuits including pulse generators, pulse forming networks and antennas  - UWB Through Wall Imaging Radar implementation  - Designed and supervised RFIC LNAs, VCOs, Pas for WLAN communication  - RF passive components  - RFID monitoring system antenna  - Offered many undergraduate/graduate courses on Microwaves, Antennas and Electromagnetics  **Lucent Technologies, Whippany, New Jersey**  04/98-08/00 Researcher ( RF engineering)  - Worked on wireless geolocation problem for IS-95 CDMA.  - Developed and implemented FLT (Forward Link Triangulation)  and AOA (Angle of Arrival) algorithms for IS-95 CDMA.  - Developed and implemented location algorithms for Wireless Assisted GPS (WAG) method.  - Simulation of link level WAG algorithms on simulink environment.  **Lucent Technologies, Holmdel, New Jersey**  09/97-03/98 RF Engineer  - Worked on effects of radiation from mobile communication antennas.  - Worked on propagation tools in mobile radio environment.    **ElectroScience Laboratory – The Ohio State University**, Columbus 07/93-09/97 Graduate Research Associate  - Developed MM codes for EM shielding problems at extra low  frequencies.  - Modified and developed the ESP (Electromagnetic Surface  Patch) Code for wire/plate junction problems near edges  and corners.  - Developed MM code for strip antennas radiating on finite size  dielectric substrate.  **Electrical Engineering Dept – Middle East Technical**  **University, Ankara, Turkey**  07/90-07/93 Research and Teaching Associate   * Worked in millimeter wave project which includes implementation   of DLVA card, design and implementation of antenna pedestal  driver, implementation of ESM (Electronic Support Measures)  and ECM (Electronic Counter Measures) systems at millimeter wave  frequencies. |
| Technical Skills | - Knowledge of RFIC circuit design techniques for LNAs, Pas and VCOs  - Extensive experience with RFIC measurements with RF probe station  - Experience in phase noise, noise figure measurements  - Extensive experience in millimeter wave antenna measurement set-up  - Experience in NSI near field antenna measurement system  - Knowledge of wireless communication techniques (FDMA, CDMA,  TDMA) and industry standards( 3G, WLAN, IS-95, IS-136, GSM, PCS 1900).  - Theoretical analysis of electromagnetic and microwave problems.  - Development and use of numerical methods in solving  electromagnetic problems.  - Experience in using and programming network/spectrum analyzers.  - Experience with microwave and electronic simulation tools  (CST,HFSS, ADS).  - Knowledge of analog/digital communication systems and  modulation techniques. |
| List of Publications | **Book Chapter**  1) Schreurs, Dominique and O'Droma, Martin and Goacher, Anthony and Gadringer, Michael, eds. (2008) [RF power amplifier behavioral modeling.](http://research.sabanciuniv.edu/10285/)  The Cambridge RF and Microwave Engineering Series, Cambridge University Press  **Journals**  1)Seyyedesfahlan, Mirmehdi, Tekin, Ibrahim,’’ACP Probe Measurement of On-Chip Strip Dipole Antennas at W Band ‘’, IEEE Trans. On Antennas and Propagation, vol. 64, issue. 4, pp. 1270-1278, April 2016  2) Haq Nawaz, I. Tekin, ‘’Dual port single patch antenna with high interport isolation for 2.4 GHz in-band full duplex wireless applications’’ MICROWAVE AND OPTICAL TECHNOLOGY LETTERS, [volume 58, Issue 7,](http://onlinelibrary.wiley.com/doi/10.1002/mop.v58.7/issuetoc) pages 1756–1759, July 2016.  3) Shaikh, Sarmad Ahmed; Tekin, Ibrahim, ‘’Two axis direction finding antenna system using sum-difference patterns in X band’’, MICROWAVE AND OPTICAL TECHNOLOGY LETTERS, [Volume 57, Issue 9,](http://onlinelibrary.wiley.com/doi/10.1002/mop.v57.9/issuetoc) pages 2085–2092, September 2015  4) Ozturk, Efe; Seyyedesfahlan, Mirmehdi; Kaynak, Mehmet; Tekin, Ibrahim, ‘’AN ULTRAWIDEBAND SiGe BiCMOS LNA FOR W-BAND APPLICATIONS’’, MICROWAVE AND OPTICAL TECHNOLOGY LETTERS, [Volume 57, Issue 6,](http://onlinelibrary.wiley.com/doi/10.1002/mop.v57.6/issuetoc) pages 1274–1278, June 2015  5) Nemati, Mohammad Hossein; Kazemi, Reza; Tekin, Ibrahim, ‘’PATTERN RECONFIGURABLE PATCH ARRAY FOR 2.4 GHZ WLAN SYSTEMS’’, MICROWAVE AND OPTICAL TECHNOLOGY LETTERS, [Volume 56, Issue 10,](http://onlinelibrary.wiley.com/doi/10.1002/mop.v56.10/issuetoc) pages 2377–2381, October 2014  6) Ozturk, Efe; Nemati, Mohammad Hossein; Kaynak, Mehmet; Tillack, Bernd; Tekin, İbrahim, ‘’SiGe process integrated full-360 degrees microelectromechanical systems-based active phase shifter for W-band automotive radar’’, 2014, IET MICROWAVES ANTENNAS & PROPAGATION, [Volume 8, Issue 11](http://digital-library.theiet.org/content/journals/iet-map/8/11;jsessionid=dicemljl7ih73.x-iet-live-01), p. 835 –841  7)Ozturk, Efe; Tekin, Ibrahim, ‘’A novel three vector sum active phase shifter design for W-band automotive radar applications’’, MICROWAVE AND OPTICAL TECHNOLOGY LETTERS, [Volume 56, Issue 7,](http://onlinelibrary.wiley.com/doi/10.1002/mop.v56.7/issuetoc) pages 1715–1721, July 2014  8) Seyyed-Esfahlan, Mehdi; Kaynak, Mehmet; Goettel, Benjamin; Tekin, Ibrahim, ‘’SiGe Process Integrated On-Chip Dipole Antenna on Finite-Size Ground Plane’’, 2013, IEEE ANTENNAS AND WIRELESS PROPAGATION LETTERS, vol.12, pp. 1260-1264  9) Ozsoy, Kerem; Bozkurt, Ayhan; Tekin, Ibrahim, ‘’Indoor positioning based on global positioning system signals’’, MICROWAVE AND OPTICAL TECHNOLOGY LETTERS, [Volume 55, Issue 5,](http://onlinelibrary.wiley.com/doi/10.1002/mop.v55.5/issuetoc) pages 1091–1097, May 2013  10) Tekin, Ibrahim; Knox, Michael, ‘’Reconfigurable microstrip patch antenna for WLAN software defined radio applications’’, 2012, MICROWAVE AND OPTICAL TECHNOLOGY LETTERS, [Volume 54, Issue 3,](http://onlinelibrary.wiley.com/doi/10.1002/mop.v54.3/issuetoc) pages 644–649, March 2012  11) M. Kaynak, I. Tekin and Y. Gurbuz, ‘’Fully integrated low-power SiGe power amplifier for biomedical applications’’, IET Microw. Antennas Propag, Volume 5, Issue 2, p.214-219, Jan. 2011  12) M. Kaynak , I. Tekin and Y. Gurbuz, ‘’ [Realisation of a single-chip, silicon germanium: C-based power amplifier for multi-band worldwide interoperability for microwave access applications](http://apps.isiknowledge.com/full_record.do?product=WOS&search_mode=GeneralSearch&qid=5&SID=W16Ha5mEHd2k3d6hcEb&page=1&doc=2)’’, IET Microw. Antennas Propag, Volume 4, Issue 12, P.2273 - 2280, Dec. 2010  13) E. Kaymaksut, Y. Gurbuz and I. Tekin, A single-chip RF power amplfier with integrated impedance matching wilkinson power dividers for 5.2 GHz WLAN applications’’, Microwave and Optical Technology Letters, Vol. 52, Issue :11, pp: 2413-2419, Nov. 2010 (SCI)  14) Kaynak M, Uzunkol M, Tekin I, et al., ‘’Performance Comparison of a Single and Multiband Power Amplifiers Using IHP 0.25 mu m SiGe HBT Technology’’, Int. Journal of RF and microwave computer-aided engineering, Volume: 19 Issue: 4 Pages: 434-442, July 2009  15) Bakkaloglu AK, Ergintav A, Ozeren E, I. Tekin, Y. Gurbuz, ‘’Design of a tunable multi-band differential LC VCO using 0.35 mu m SiGe BiCMOS technology for multi-standard wireless communication systems’’, Microelectronics Journal, Volume: 40 Issue: 6 Pages: 983-990, June 2009  16) M. Abbak, I. Tekin,’’ RFID Coverage Extension using Microstrip Patch Antenna Array ’’, IEEE Antennas and Prop. Magazine, Vol: 51, pp: 185-191, Feb. 2009 (SCI)  17) Kaymaksut, Ercan and Gurbuz, Yasar and Tekin, İbrahim, ‘’Impedance Matching Wilkinson Power Dividers in 0.35μm SiGe BiCMOS Technology’’ Microwave and Optical Technology Letters, Vol. 51, Issue :4, pp: 681-685, March 2009 (SCI)  18) I. Tekin, ‘’Ultra wideband pulse generation using microstrip coupled lines’’,  Microwave and Optical Technology Letters, Vol. 51, Issue :4, pp: 944-949, April 2009 (SCI)  19) Kabadayi S., Tekin I., ‘’Software-only TDOA/RTF positioning for 3G WCDMA wireless network’’, WIRELESS COMMUNICATIONS & MOBILE COMPUTING, Volume: 8 Issue: 7 Pages: 895-906 Published: SEP 2008  20) Esame O., Tekin I., Gurbuz Y.,’’Realization of a VCO for WLAN applications using 0.35 mu m-SiGe BiCMOS technology’’ INTERNATIONAL JOURNAL OF RF AND MICROWAVE COMPUTER-AIDED ENGINEERING  Volume: 18 Issue: 5 Pages: 485-495 Published: SEP 2008    21) Heves E., Tekin I., Gurbuz Y., ‘’A MEM-varactor tuned, 7.8 GHz differential LC voltage-controlled oscillator’’, SENSORS AND ACTUATORS A-PHYSICAL Volume: 144 Issue: 2 Pages: 296-303 Published: JUN 15 2008  22) Canan Kavlak, Yasar Gürbüz, İbrahim Tekin, ["A Coplanar waveguide on-chip RF choke for WLAN RF circuits"](https://research.sabanciuniv.edu/6142/1/cpw_paper.pdf), Microwave and Optical Technology Letters, Vol.49, No.10, October 2007, 2530-2534 (SCI)  23) Tekin, İbrahim, Meriç Özcan, Erman Engin, Berkehan Çiftçioğlu, ["A high resolution ultrawideband wall penetrating radar"](https://research.sabanciuniv.edu/96/1/3011800000350.pdf), Microwave and Optical Technology Letters, Vol.49, No.2, February 2007, 320-325 (SCI)  24) Tekin, İbrahim, Yaşar Gürbüz, Ayhan Bozkurt, İbrahim Onur Esame,  ["Design of a 4.2-5.4 GHz Differential LC VCO Using 0.35m SiGe BiCMOS Technology for IEEE 802.11a Applications"](https://research.sabanciuniv.edu/101/1/stvkaf01735.pdf), International Journal of RF and Microwave Computer-Aided Engineering, Vol.17, No.2, April 2006 (SCI)  25)Tekin, İbrahim, Sertaç Yılmaz, ["An N-Bit Digitally Variable Ultra Wideband Pulse Generator for GPR and UWB"](http://research.sabanciuniv.edu/62/1/3011800000306.pdf), Microwave and Optical Technology Letters, Vol.48, No.7, July 2006, 1334-1339 (SCI)  26) Tekin, İbrahim, ["UWB microstrip filter design using a time-domain technique"](https://research.sabanciuniv.edu/546/1/3011800001162.pdf), Microwave and Optical Technology Letters, Vol.47, No.4, November 2005, 387-391(SCI)  27) Gürbüz, Yaşar, İbrahim Tekin, İbrahim Onur Esame, Weng Poo Kang, Jimmy L. Davidson, ["Diamond semiconductor technology for RF device applications"](https://research.sabanciuniv.edu/269/1/3011800000828.pdf), Solid-State Electronics, Vol.49, No.7, July 2005, 1055-1070 (SCI)  28) O. Esame,  Y. Gurbuz ve I. Tekin, “Performance Comparison of State-of-the-Art Heterojunction Bipolar Devices (HBT) based on AlGaAs/GaAs, Si/SiGe and InGaAs/InP “, Microelectronics Journal, 901-908, 2004.   29) I. Tekin, E.H. Newman, ``Space-Domain Method of Moments solution for a Strip on a Dielectric Slab'', IEEE Trans. on Antennas and Propagation, vol. 46, pp. 1346, Sept. 1998.   30) I. Tekin, E.H. Newman, ``A comparison of the transmission Through butt and overlap gaps'', IEEE Trans. on Electromagnetic Compatibility, vol.40, pp. 281, August 1998.   31) I. Tekin, E.H. Newman, ``Method of Moments solution for a wire attached to  an arbitrary faceted surface'', IEEE Trans. on Antennas and Propagation,  vol. 46, pp. 559, April 1998.   32) I. Tekin, E.H. Newman, ``Moment Method analysis of the magnetic shielding  factor of a conducting TM shield at ELF'', IEEE Trans. on Electromagnetic Compatibility, vol. 38, pp. 585, Nov. 1996.   **Conference Papers**  1)Seyyed-Esfahlan, Mehdi; Tekin, Ibrahim; Kaynak, Mehmet, ‘’[Wideband 94 GHz On-chip Dipole Antennas for Imaging applications’’](https://apps.webofknowledge.com/full_record.do?product=UA&search_mode=GeneralSearch&qid=1&SID=T2YqZfdFHfk4sHh9UyJ&page=1&doc=6) 2014 IEEE ANTENNAS AND PROPAGATION SOCIETY INTERNATIONAL SYMPOSIUM (APSURSI) Pages: 360-361   Published: 2014  2) Seyyed-Esfahlan, Mehdi; Nemati, Mohammad Hossein; Tekin, Ibrahim,’’W-band Silicon Dielectric Measurement’’ , IEEE Antennas-and-Propagation-Society International Symposium (APSURSI) Location: Memphis, TN, Pages: 918-919 Published: 2014  3) Wietstruck, M.; Kaynak, M.; Marschmeyer, S, I. Tekin, ‘’ Modeling and Optimization of BiCMOS Embedded Through-Silicon Vias for RF-Grounding , 14th IEEE Topical Meeting on Silicon Monolithic Integrated Circuits in RF Systems (SiRF) Location: JAN 19-23, Pages: 83-85   Published: 2014  4) Nemati, Mohammad Hossein; Tekin, Ibrahim ‘’[A 77GHz on-chip Microstrip patch antenna with suppressed surface wave using EBG substrate’’,](https://apps.webofknowledge.com/full_record.do?product=UA&search_mode=GeneralSearch&qid=1&SID=T2YqZfdFHfk4sHh9UyJ&page=1&doc=10) 2013 IEEE ANTENNAS AND PROPAGATION SOCIETY INTERNATIONAL SYMPOSIUM (APSURSI)   Pages: 1824-1825   Published: 2013  Tekin, Ibrahim; Kaynak, Mehmet [A 77 GHz On-chip Strip Dipole Antenna Integrated with Balun Circuits for Automotive Radar](https://apps.webofknowledge.com/full_record.do?product=UA&search_mode=GeneralSearch&qid=1&SID=T2YqZfdFHfk4sHh9UyJ&page=2&doc=13)  2012 IEEE ANTENNAS AND PROPAGATION SOCIETY INTERNATIONAL SYMPOSIUM (APSURSI)   Published: 2012  5) Lisker, Marco; Marschmeyer, Steffen; Kaynak, Mehmet; I. Tekin, ‘’A Sub-Atmospheric Chemical Vapor Deposition Process for Deposition of Oxide Liner in High Aspect Ratio Through Silicon Vias’’, JOURNAL OF NANOSCIENCE AND NANOTECHNOLOGY  Volume: 11   Issue: 9 Pages: 8061-8067   Published: SEP 2011  6) Marco Lisker, Steffen Marschmeyer, Mehmet Kaynak, Ibrahim Tekin, ‘’Sub-atmospheric Chemical Vapor Deposition of SiO2 for Dielectric Layers in High Aspect Ratio TSVs’’ ECS Transactions, 35(2), 95-104 (2011)  7) Ibrahim Tekin, Oksana Manzhura, and Edip Niver, ‘’Broadband circularly polarized antennas for UHF SATCOM’’, URSI GASS 2011, Istanbul, Turkey  8) I. Tekin, E. Niver, ‘’UHF SATCOM broadband CP antenna: Moxon type bent- dipoles over a ground plane’’, PIERS 2011, Suzhou, China  9) K. Ozsoy, A. Bozkurt and I. Tekin,’’ 2D Indoor positioning system using GPS Signals’’, 2010 International Conference on Indoor Positioning and Indoor Navigation (IPIN), 15-17 September 2010, Zürich, Switzerland  10) Tekin, İbrahim and Knox, Michael’’ Reconfigurable dual band microstrip patch antenna for software defined radio applications’’, 2010 IEEE International Conference on Wireless Information Technology and Systems, Hawaii, USA  11) M. Dogan and I. Tekin,’’ A tunable X-band SiGe HBT single stage cascode LNA’’, Mediterranean Microwave Symposium 2010 (MMS'2010), Northern Cyprus  12) Kerem Özsoy and I. Tekin, ’’Directional GPS Antenna for Indoor Positioning Applications’’, PIERS 2009 conference, August 2009  13) M. Dogan, K. Ozsoy and I. Tekin,’’ Printed Dipole Array Fed with Parallel Stripline for Ku-band Applications’’, PIERS 2009 conference, August 2009  14) Abbak, Mehmet and Tekin, İbrahim (2008) [Mikroşerit Yama Dizi Anten ile RFID Sistemlerinde Mesafe Artırımı.](http://research.sabanciuniv.edu/9806/) In: IV. URSI-Turkiye Bilimsel Kongresi, Antalya  15) Kaymaksüt, Ercan and Tekin, İbrahim (2008) [Empedans Uyumlu Wilkinson Güç bölücü yöntemi ile Birleştirilmiş Güç Kuvvetlendiricisi Tasarımı.](http://research.sabanciuniv.edu/9871/) In: IV. URSI- Türkiye Bilimsel Kongresi, Antalya (Accepted/In Press)  16) Ozbek, Sefa and Tekin, İbrahim (2008) [IEEE 802.15.3a Standard Uyumlu, Ultra Geniş Bantlı- Düşük Gürültülü Kuvvetlendirici Devresinin Gerçeklenmesi.](http://research.sabanciuniv.edu/9805/) In: IV. URSI-Turkiye Bilimsel Kongresi, (Accepted/In Press)  17) Abbak, Mehmet and Tekin, İbrahim (2008) [Microstrip patch antenna array for range extension of RFID applications.](http://research.sabanciuniv.edu/9807/) In: 2008 IEEE APS/URSI Conference, San Diego  18) Heves, Emre and Tekin, İbrahim and Gürbüz, Yaşar (2007) Realization of Micromachined-Microelectromechanical Devices for Multiband/Tunable RF-Circuit Applications. In: TARGET DAYS, Rome – Italy  19) Kaynak, Mehmet and Uzunkol, Mehmet and Köklü, Gözen and Tekin, İbrahim and Gürbüz, Yaşar (2007) [Realization of a Single and Multi-Power Amplifier Using IHP 0.25 um SiGe HBT Technology.](http://research.sabanciuniv.edu/6781/) In: TARGET DAYS 2007, Rome – Italy  20) Heves, Emre and Esame, İbrahim Onur and Tekin, İbrahim and Gürbüz, Yaşar (2007) [A MEM Varactor Tuned-Voltage Controlled Oscillator fabricated using 0.35µm SiGe BiCMOS technology.](http://research.sabanciuniv.edu/6796/) In: European Microwave Week 2007, Munich Germany  21) Budak, Erhan and Çatay, Bülent and Tekin, İbrahim and Yenigün, Hüsnü and Abbak, Mehmet and Drannikov, Sergey and Şimşek, Oya (2007) [Design of an RFID-based manufacturing monitoring and analysis system.](http://research.sabanciuniv.edu/5119/) In: RFID Eurasia, Istanbul, Turkey  22) Budak, Erhan and Çatay, Bülent and Tekin, İbrahim and Yenigün, Hüsnü and Abbak, Mehmet and Drannikov, Sergey (2007)  [Microstrip patch antenna for RFID applications.](http://research.sabanciuniv.edu/5611/) In: RFID Eurasia, İstanbul  23) Gürbüz, Yaşar and Kaynak, Mehmet and Tekin, İbrahim (2006) [Design of a single - chip, dual-band (2.4 GHz - WLAN and 3.6 GHz WiMAX), class a power amplifier using 0.25m-SiGe HBT technology.](http://research.sabanciuniv.edu/1167/) In: TARGET DAYS 2006 , Vienna  24) Esame, İbrahim Onur and Kaynak, Mehmet and Kavlak, Canan and Tekin, İbrahim and Gürbüz, Yaşar and Bozkurt, Ayhan (2006)  [IEEE 802.11a standard uyumlu, RF alıcı-verici alt-blok devrelerinin gerçeklenmesi.](http://research.sabanciuniv.edu/1160/) In: URSI-TÜRKİYE'2006 3. Bilimsel Kongresi ve 4. Ulusal Genel Kurul Toplantisi, Ankara  25) Esame, İbrahim Onur and Tekin, İbrahim and Gürbüz, Yaşar (2006) [A 4.5-5.8 GHz Differential LC VCO using 0.35 m SiGe BiCMOS Technology.](http://research.sabanciuniv.edu/1159/) In: 36th European Microwave Conference 2006 (European Microwave Integrated Circuits Conference 2006),  26) Kaynak, Mehmet and Tekin, İbrahim and Gürbüz, Yaşar and Bozkurt, Ayhan (2006) [A Low noise and low power, SiGe-BiCMOS LNA for IEEE 802.11a Applications.](http://research.sabanciuniv.edu/1219/) In: 36th European Microwave Conference 2006 (European Microwave Integrated Circuits Conference 2006), Manchester, UK  27) Kaynak, Mehmet and Tekin, İbrahim and Gürbüz, Yaşar and Bozkurt, Ayhan (2006) [Tek kırmık 2.4-2.5 GHz (WLAN) ve 3.3-3.9 GHz (WiMAX) için, çift-bandlı A-Sınıfı güç yükselticisi.](http://research.sabanciuniv.edu/1220/) In: URSI-TÜRKİYE'2006 3. Bilimsel Kongresi ve 4. Ulusal Genel Kurul Toplantisi, Ankara  28) Sertac Yılmaz and Ibrahim Tekin, ‘’Ultra-Wideband N-Bit Digitally  Tunable Pulse Generator’’, 2005 IEEE International Conference on  Ultra-Wide Band, September 5 - 8, 2005 in Zurich, Switzerland  29) Onur Esame, Berkehan Ciftcioglu, Yasar Gurbuz, Ibrahim Tekin and Ayhan Bozkurt, ‘’Design of a 4.4-5.9 GHz Differential LC VCO Using 0.35μm SiGe BiCMOS Technology for IEEE 802.11a Applications’’, Mediterranean Microwave Symposium September 2005, Athens, Greece.  30) Mehmet Kaynak, Ibrahim Tekin, Yasar Gurbuz, Ayhan Bozkurt,  “Low Noise Amplifier Design using 0.35µm SiGe BiCMOS technology for  IEEE 802.11a Standard”, Mediterranean Microwave Symposium September 2005, Athens, Greece.   31) Nilufer Tonga, Mehmet Kaynak, Yasar Gurbuz, Ayhan Bozkurt, Ibrahim Tekin, “Power Amplifier Design for IEEE 802.11a Standard Using AMS 0.35  SiGe BiCMOS Technology”, Target Workshop on RF Power Amplifier April 2005, Orvieto, Italy.   32) Emre Salman, Hande Akın, Ozgur Gursoy, Arzu Ergintav, Ibrahim Tekin,  Ayhan Bozkurt, Yasar Gurbuz, “Design and Verification of a PLL based Clock  and Data Recovery Circuit”, Mediterranean Microwave Symposium  September 2005, Athens, Greece   33) Soner Yaldiz, Serkan Ozdemir, Arzu Ergintav, Ibrahim Tekin,  Ayhan Bozkurt, Yasar Gurbuz, “A Type II Fourth Order Fractional-N Frequency  Synthesizer Design for Bluetooth Applications”,  Mediterranean Microwave Symposium September 2005, Athens, Greece  34) Neslihan YILDIRIM GÜLER, İbrahim TEKİN, ‘’INDOOR TRANSMITTER LOCALIZATION VIA DF/AOA TECHNIQUE’’,  IEEE APS-URSI Symposium, Monterey, CA, June 2004.  35) E. Zorlu, I. Tekin,  ‘’Effects of imperfect power control, frequency and timing offset on LS-DRMTA and LS-DRMTCMA algorithms for smart antennas, IEEE APS-URSI Symposium, Columbus, OH, June 2003    36) S. Uslu & I. Tekin, ‘’PATH LOSS DUE TO RAIN FADING AND PRECIPITATION IN 26 GHz LMDS SYSTEMS: CONSIDERATION OF IMPLEMENTATION IN TURKEY’’, CriMiCo'2003 13th International Conference "Microwave & Telecommunication Technology’’, Sept. 9-12, 2003 , Sevastopol, Ukraine.   37) S. Kabadayı, I.Tekin, ‘’SYSTEM-LEVEL SIMULATION OF A THIRD GENERATION WCDMA WIRELESS GEOLOCATION NETWORK’’, IEEE APS-URSI Symposium, Austin, TX, June 2002.  38)  I. Tekin, B. Chen, Z. Dziong, ''Simulation of a hybrid Geolocation  Method for UMTS Location Service (LCS)'', IEEE APS-URSI   Symposium, San Antonio TX, July 2002  39) O.  Sunay, I. Tekin, ‘’Mobile Location Tracking for IS-95  Using the Forward Link Time Difference of Arrival Techniques  and Its Application to Zone-Based Billing ‘’, IEEE Globecom 99,  Dec. 5 1999, Rio de Janeiro, Brazil.   40) I. Tekin, E.H. Newman, ‘’Space domain Method of Moments  solution for a thin strip on a finite dielectric slab'',  IEEE APS-URSI Symposium, Montreal Canada, July 1997.   41) I. Tekin, E.H. Newman, ‘’Method of Moments solution  for a wire attached to an arbitrary faceted surface'',  IEEE APS-URSI Symposium, Baltimore MA, July 1996   42) I. Tekin, E.H. Newman, ‘’Method of Moments solution  for the electric and magnetic shielding factors of a  conducting shield at ELF'', IEEE APS-URSI Symposium, Baltimore MA, July 1996.   43) E.H. Newman, I. Tekin,  ‘’An overview of the application  of the Method of Moments to  large bodies in Electromagnetics'',  National Academy of Sciences Symposium on Large-Scale  Structures in Acoustics and Electromagnetics, Washington D.C., 1996.  44) I. Tekin, S. Koc, A. Hizal, ‘’Simultaneous frequency and  direction finding technique using frequency scanning  antenna arrays'', Jina 92, NICE, 12-14 November 1992, p.617-620.  45) I. Tekin, A. Hizal, ‘’Simultaneous frequency and  direction finding technique using frequency  scanning antenna'', Proc. 22nd European Microwave Conference,  Helsinki, Finland, 24-27 August 1992, vol.1, p.654-658. |
| Patents | **Issued patents**  1) I. Tekin, ‘’Novel ultra wideband waveform generator circuit’’, US Patent No: 7,864,870  2) I. Tekin and B. Chen, "Location Finding Using A Single Base Station  In CDMA/TDMA Systems ", US Patent No: 6,300,905.  3) I. Tekin, B. Chen, R.E. Richton and G. E. Vanucci, ‘’Method and apparatus for estimating the location of a mobile terminal’’, US Patent No: 6,658,258      4) I. Tekin, B. Chen, and R. Da, " Location determination  using weighted ridge regression ", US Patent No: 6,587,692  5) I. Tekin, B. Chen, T.C. Chiang and R. Da, ‘’Satellite-based location system employing dynamic integration techniques’’, US Patent No: 6,965,760  **Published applications**  1) I. Tekin and B. Chen, ‘’Communications system and related method for determining a position of a mobile station’’, US 20020160787  2) I. Tekin, A. Bozkurt and K. Ozsoy, ‘’ INDOOR POSITIONING SYSTEM BASED ON GPS SIGNALS AND PSEUDOLITES WITH OUTDOOR DIRECTIONAL ANTENNAS’’, US 20120286992 A1  3) GURBUZ YASAR; TEKIN IBRAHIM; GUL OEZGUER; KAYNAK MEHMET ; HEVES EMRE‘’A biosensor and chemical sensor implementation using RF and microwave device, circuits and systems’’, EP 1912062  (A1) |
| Research  Projects | 1) TUBİTAK 114E494 (on-going) Co-PI, ‘’ Design and Implementation of a Single Antenna Full-Duplex Radio’’ 05/2016-05/2018, Budget: 500K TL  2) TUBİTAK 114E494 (on-going) PI, ‘’ Multiport wideband single antenna for MIMO based wireless communication systems and mobile phones’’ 05/2015-05/2017, Budget: 250K TL  3) TUBİTAK 111E061 (completed) PI, ‘’Integrated phased array antenna and LNA circuit for a 77 GHz automotive radar’’ 10/2011-10/2014, Budget: 433K TL  4) TUBİTAK 110E107 (completed), Researcher, ‘’X-band phased-array transceiver module for RADAR applications using SiGe-BiCMOS and CMOS integrated RFMEMS switch device technologies’’,10/2010- 10/2013, Budget:353K TL  5) TUBİTAK 105E178 (completed), PI,’’Realization of state-of-the-art IEEE802.11a, 15 (UWB) transceiver chipset and compatible RF MEMS components’’, 06/2006- /06/2009, Budget: 474K TL  6) TUBİTAK 107E014 (completed), Researcher, Integrated RF transmitter based biosensor development, 06/2007-06/2010, Budget:360K TL  7) TUBİTAK 104E123 (completed), Researcher, ‘’Radio Frequency Identification (RFID) Based Manufacturing Monitoring and Analysis System’’, 6/2006-8/2008, Budget: 110K TL  8) FP6 TARGET(completed), Researcher, ’’Top amplifier Research Groups in a European Team’’, 2004/2008, Budget: 230K Euro  9) IBB(Municipality of greater Istanbul) (completed), PI, ‘’Real time environmental pollution map using GPRS-GPS enabled mobile devices’’, 2007/2008, Budget:15 K TL  10) COST IC1102, Member,’’Versatile, Integrated, and Signal-aware Technologies for Antennas (VISTA) - IC1102’’, 2011-2014 |
| Thesis supervised | 1) Sanem Kabadayı, MS in EECS, Sabancı University, 2000-2002 ‘’System-level simulation of a 3G WCDMA wireless geolocation network’’  2) H.Ercument Zorlu, MS in EECS, 2001-2003, Sabancı University ‘’Experimental evaluation of synchronization errors – on the performance smart antenna algortihms for CDMA’’  3) Neslihan Yıldırım, MS in EECS, 2002-2004, Sabancı University ‘’Indoor source localization via Direction Finding technique’’  4) Sertac Yılmaz, MS in EECS, 2005, Sabancı University ‘’ N-BIT DIGITALLY TUNABLE ULTRA WIDE-BAND PULSE GENERATOR’’  5) Canan Kavlak, MS in EECS, 2006 ‘’POWER AMPLIFIER IMPROVEMENT TECHNIQUES/CIRCUITS IN 0.35 μm SiGe HBT TECHNOLOGY FOR 5 GHz WIRELESS LAN BAND’’  6) Nilufer Tonga, MS in EECS, 2007, Sabancı University ‘’DESIGN OF COMBINED POWER AMPLIFIER USING 0.35MICRON SiGe HBT TECHNOLOGY FOR IEEE 802.11a STANDARD’’ Co-supervised with Prof. Yasar Gürbüz  7) Mehmet ABBAK, EECS, MS Thesis, 2008, ‘’MICROSTRIP PATCH ANTENNA ARRAY FOR COVERAGE AND RANGE EXTENSION OF RFID APPLICATIONS’’  8) Ercan Kaymaksüt, MS Thesis, 2008, A 5.2 GHz RF COMBINED POWER AMPLIFIER WITH FULLY INTEGRATED ON-CHIP IMPEDANCE MATCHING WILKINSON POWER COMBINER AND SPLITTER  9) Kerem Ozsoy, MS Thesis, 2009, ‘’An Indoor Positioning System Based on Global Positioning System: Design, Implementation and Analysis’’  10) Efe Öztürk, MS Thesis, SiGe BiCMOS Active Phase Shifter Design  for W-band Automotive Radar Applications, 2014, Sabancı University  11) Muhammad Hossein Nemati, MS thesis, Phased Array Antenna Element for Automotive Radar Application, 2014, Sabancı University  13) Sarmad Ahmad Shaikh, MS thesis, TWO AXIS DIRECTION FINDING ANTENNA SYSTEM USING DIFFERENCE – SUM PATTERNS IN X-BAND, 2015, Sabancı University  12) Mirmehdi Seyyedesfahlan, PhD thesis, On-Chip Antennas and PCB Packaged Phased-Array Radar Receiver Front End for Millimeter-Wave Radar Applications, 2016, Sabancı University |
| Graduate Course Topics | Antennas, Microwaves, RF circuit design, Advanced Electromagnetic Theory, Periodic Surfaces, Method of Moments, Geometrical Theory of Diffraction, Finite Element Methods, Radar Systems, Microwave Theory, Advanced Communication Theory, Digital Communications, Wireless Communications, Digital Signal Processing, Detection and Estimation, Stochastic Processes, Probability and Statistics, |
| Undergraduate course topics | Electromagnetics, Microwaves, RF circuit design, Antennas, Microwave Electronics, Wireless communications |
| References | Available upon request. |