

# Ergin Atalar, Ph. D. *Curriculum Vitae*

## Personal Information

**Address:** Bilkent University  
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**Web Page:** <http://ErginAtalarLab.bilkent.edu.tr/>

## Short Biosketch

I am an **Electrical and Electronics Engineering Professor** at **Bilkent University**, Turkiye. I spent almost half of my academic career at **Johns Hopkins University**. I am currently on sabbatical at the National Heart, Lung and Blood Institute, NIH at Bethesda, Maryland. While I was at Hopkins, I became known for my contributions to the cardiovascular and interventional MRI fields. During my entire career at Hopkins, my salary was fully supported by research grants. I was a PI of several NIH R01 grants. My patented inventions resulted in the formation of **ClearPoint Neuro, Inc.** (formerly Surgi-Vision Inc.). The company's products have enabled over 6000 MRI-guided brain surgeries as of 2024. I left Hopkins after receiving my tenure position.

After returning to Turkiye in 2005, I switched my research focus to magnetic resonance engineering and the safety of MRI as enabling technologies of MRI interventions. I have received three major grants to form **UMRAM, the national magnetic resonance research center**. There are 15 faculty members in the center with more than 100 researchers. All research activities in the center are externally supported.

I supervised many young scientists who became faculty members in top universities, such as **Xiaoming Yang** (Professor of Radiology at the University of Washington, USA), **Jean-Michel Serfaty** (Professor of Radiology at CHU Nantes, France), **Harald H. Quick** (Professor and Managing Director, Erwin L. Hahn Institute for Magnetic Resonance Imaging, Germany), **Yigitcan Eryaman** (Associate Professor at University of Minnesota), **Emre Kopanoglu** (Lecturer at the Cardiff University, UK), **Esra Abaci Turk** (Assistant Professor at the Childrens Hospital, Boston, USA), and **Akbar Alipour** (Assistant Professor at Mount Sinai School of Medicine, USA).

I authored 127 peer-reviewed journal papers. My **h-index is 71**, according to Google Scholar, with more than **17400 citations** (h-index=47 and 6800+ citations according to Scopus) as of February 2025. I hold **54 US patents**. I am a **fellow of the International Society of Magnetic Resonance in Medicine** and the **National Academy of Inventors, USA**. I have received the **Science Award** from the Scientific and Technological Research Council of Turkiye. I am a member of the **Academia Europaea** and **Science Academy, Turkiye**.

## Education

- Ph. D.** 1991, Department of Electrical and Electronics Engineering, *Project title: Motion Artifact Reduction Techniques in Magnetic Resonance Imaging*, Bilkent University, Ankara, Turkiye
- M. S.** 1987, Department of Electrical and Electronics Engineering, *Project title: An Iterative Backprojection Algorithm for Electrical Impedance Imaging Using Finite Element Method*, Middle East Technical University, Ankara, Turkiye
- B. S.** 1985, Department of Electrical and Electronics Engineering, Bogazici University, Istanbul, Turkiye

## Employment History

### **National Heart, Lung and Blood Institute, NIH, Bethesda, Maryland**

+ Sep 2024- Scientist (on Sabbatical)

### **Bilkent University, Ankara, Turkiye**

+ 2004- Professor, Department of Electrical and Electronics Engineering

+ 2009-2023 Director, National Magnetic Resonance Research Center (UMRAM)

+ 2005-2011 Vice Chair, Department of Electrical and Electronics Engineering

+ 2002-2004 Visiting Professor, Department of Electrical and Electronics Engineering

+ 1996-1998 Visiting Assistant Professor, Department of Electrical and Electronics Engineering

+ 1988-1991 Instructor, Department of Electrical and Electronics Engineering

+ 1986-1988 Research Assistant, Department of Electrical and Electronics Engineering

### **Johns Hopkins University, Baltimore, Maryland**

+ 2005-2015 Adjunct Professor, Department of Radiology and Radiological Sciences

+ 2004-2005 Professor, Department of Radiology and Radiological Sciences

+ 2003-2005 Joint Appointment, Department of Electrical and Computer Engineering

+ 1998-2004 Associate Professor, Department of Radiology and Radiological Sciences

+ 1998-2005 Joint Appointment, Department of Biomedical Engineering

+ 1994-1998 Assistant Professor, Department of Radiology and Radiological Sciences

+ 1993-1994 Instructor, Department of Radiology and Radiological Sciences

+ 1991-1993 Postdoctoral Fellow, Department of Biomedical Engineering Johns Hopkins University, Baltimore, Maryland

### **Industry**

+ 1998- Founder ClearPoint Neuro, Inc. (formerly known as MRI Interventions, Inc and SurgiVision Inc.), Columbia, Maryland

+ 2007-2015 Founder, Troyka Med AS, Ankara, Turkiye

+ 1981-1986 Engineer PETAS, Ankara, Turkiye

## Awards

+ 2024 Distinguished Teacher Award, Bilkent University

+ 2023 Technology Award, Elginkan Foundation

+ 2016 Fellow, National Academy of Inventors

+ 2013 Member, Academia Europaea

+ 2012 Member, Science Academy, Turkiye

+ 2011 Fellow, ISMRM

+ 2006 Science Award, TUBITAK

+ 2001 Melvin Judkins Young Investigator Award, American Heart Association

X. Yang, E. Atalar, D. Lim J. M. Serfaty, D. Wang, A. Kumar, L. Cheng, In vivo MR imaging of catheter-based vascular gene transfer

+ 2000 Melvin Judkins Young Investigator Award, American Heart Association

J. M. Serfaty, X. Yang, H. H. Quick, P. Aksit, E. Atalar, MR-guided coronary artery intervention

+ 1999 Samuel A. Levine Young Investigator Award, American Heart Association

K.A. Shunk, J. A. C. Lima, C. Rochitte, E. Atalar, Transesophageal MRI of Thoracic Aorta in Vivo in Patients with and without Atherosclerosis

+ 1995 Frank T. McClure Fellow

## Current Research Group Members

### *Research Associates*

1. **Erkan Dorken**, 2020-
2. **Manouchehr Takrimi**, 2019-

### *Postdoctoral Fellows*

3. **Mehdi Ghasemzadeh**, 2023-
4. **Sadeq Ashrafi**, 2023-

### *Engineers*

5. **Metin Can Isik**, 2022-
6. **Fatma Gul Uyar**, 2022-

### *Graduate Students*

7. **Abdullah Erkam Arslan**, 2022 Ph.D. Student
8. **Muhammed Ali Khan**, 2022 M.S. Student
9. **Mehmet Emin Ozturk**, 2022 M.S. Student
10. **Omer Faruk Unal**, 2022 M.S. Student
11. **Ege Aydin**, 2023 M.S. Student
12. **Ahmet Caner Akar**, 2024 M.S. Student

## Past Research Group Members

### *Postdoctoral Fellows*

1. **Reza Babaloo**, 2023-2024 (Current position: Postdoctoral Fellow at the Robarts Research Institute, ON, Canada)
2. **Ehsan Kazemivalipour**, 2020-2021 (Current position: Postdoctoral Fellow at the Matinos Center of MGH, USA)
3. **Akbar Alipour**, 2017-2017 (Current position: Assistant Professor at Mount Sinai School of Medicine, USA)
4. **Yusuf Oner**, 2001-2002 (Current position: Professor of Radiology at Gazi University, Turkiye)
5. **Jean Michel Serfaty**, 1998-2000 (Current position: Professor of Radiology at CHU Nantes, France)
6. **Xiaming Yang**, 1997-1998 (Current position: Professor of Radiology at University of Washington, USA)
7. **Ogan Ocali**, 1995-1997 (Current position: Deceased. Formed startup companies in USA and Turkiye)

### *Supervised Ph.D. Theses*

1. **Reza Babaloo**, Ph.D. Thesis: Technical innovations in gradient array systems for MRI application, Bilkent University, 2023. (Current position: Postdoctoral fellow at Bilkent University)
2. **Ariyurek, Cemre**, Ph.D. Thesis: Frequency Response Analysis and Reconstruction Weighting Schemes for MR Elastography, Bilkent University, 2020 (Current position: Postdoctoral fellow at the Childrens Hospital, Boston, USA)

3. **Kazemivalipour, Ehsan**, Ph.D. Thesis: *Innovative Designs of RF Transmit Array Coils and RF Heating Analysis of Patients with Implanted DBS*, Bilkent University, 2020 (Current position: Postdoctoral Fellow at the Matinos Center of MGH, USA)
4. **Sadeghi-Tarakameh, Alireza**, Ph.D. Thesis: *Novel Techniques and Innovative DDesign for the RF Chain of Magnetic Resonance Imaging Scanners*, Bilkent University, 2020 (Current position: Postdoctoral Fellow at University of Minnesota, USA)
5. **Ertan, Koray N.**, Ph.D. Thesis: *Design and Applications of a z-Gradient Array in Magneric Resonance Imaging*, Bilkent University, 2019. (Current position: Postdoctoral Fellow at the Stanford University, USA)
6. **Kerse, M. Can**, Ph.D. Thesis: *Ablation Cooled Material Removal With Bursts of Ultrafast Pulses*, Bilkent University, 2016. (Role: Co-advisor. Primary advisor is F. Omer Ilday). (Current position: Senior System and Design Engineer, Meteksan Savunma, Turkiye)
7. **Acikel, Volkan**, Ph.D. Thesis: *Analysis of Current Induction on Thin Conductors Inside the Body During MRI Scan*, Bilkent University, 2015. (Current position: Senior Design Engineering at ASELSAN, Turkiye)
8. **Turk, Esra A.**, Ph.D. Thesis: *Novel Methods and Analysis of B0 and B1 Gradients in Magnetic Resonance Imaging*, Bilkent University, 2013 (Current position: Assistant Professor at the Childrens Hospital, Boston, USA)
9. **Kopanoglu, Emre**, Ph.D. Thesis: *Novel Techniques Regarding Specific Absorbtion Rate and Field of View Reducing in Magnetic Resonance Imaging*, Bilkent University, 2012 (Current position: Lecturer at the Cardiff University, UK)
10. **Eryaman, Yigitcan**, Ph.D. Thesis: *Novel SAR Reduction Methods for Magnetic Resonance Imaging*, Bilkent University, 2011 (Current position: Associate Professor with tenure at University of Minnesota, USA)
11. **Celik, Haydar**, Ph.D. Thesis: *Novel Magnetic Resonance Technologies for Image-Guided Interventions*, Bilkent University, 2010 (Current position: Clinical Researcher at Promaxo Inc, USA)
12. **Susil, Robert C.**, Ph.D. Thesis: *Interventional MRI: Targeting, Monitoring, and Assessment of Minimally Invasive Therapies*, Johns Hopkins University, 2003. (Current position: Deceased)
13. **Yeung, Chistopher J.**, Ph.D. Thesis: *RF Heating Due to Metallic Devices in MRI*, Johns Hopkins University, 2002 (Current Position: The pastoral associate to the Western Vicar for the Archdiocese of Baltimore, USA)
14. **Bolster, Bradley D.**, Ph.D. Thesis: *Rapid Determination of Local Vascular Tissue Material Properties using Magnetic Resonance Imaging*, Johns Hopkins University, 2000 (Current Position: Sr. Staff Scientist at Siemens Healthcare, Utah, USA)

## Supervised M.S. Theses

1. **Elnaz Mahmoudi**, M.S. Thesis, Optimized RF safety monitoring for cerebellar imaging at 7T, Bilkent University, 2024.
2. **Eskandarian, Laleh**, M.S. Thesis, (CoSupervised together with Kader Karli Oguz) Structural connectivity alters in pediatric systemic lupus erythematosus prior to neuropsychiatric manifestations, Bilkent University, 2022
3. **Arghani, Ziba**, M.S. Thesis, Driving mutually coupled coils using an array of class-E amplifiers, Bilkent University, 2022
4. **Arslan, Abdullah E.**, M.S. Thesis, A 600W on-coil Class-E RF power amplifier array with dynamic phase control for 3T MRI, Bilkent University, 2022
5. **Tasdelen, B.**, M.S. Thesis: *Dynamic Decoupling and Noise Analysis for Simultaneous Transmission and Reception in MRI and MPI*, Bilkent University, 2020
6. **Ashfaq, Bismillah N.**, M.S. Thesis: *A Gate Modulated Digitally Controlled Modified Class-E Amplifier for On-Coil Application in MRI*, Bilkent University, 2018
7. **Tu Zahra, Fatima**, M.S. Thesis: *Highly Efficient 300 W Modified Class-E RF Amplifiers for 64 MHz Transmit Array System*, Bilkent University, 2017
8. **Poni, Redi**, M.S. Thesis: *A Digitally Controlled Class-E Amplifier for MRI*, Bilkent University, 2016
9. **Sadeghi-Tarakameh, Alireza**, M.S. Thesis: *Design of a Birdcage-Like Radio Frequency Transmit Array Coil for the Magnetic Resonance Imaging Using Equivalent Circuit Model*, Bilkent University, 2016
10. **Salim, Maryam**, M.S. Thesis: *Full-Duplex MRI for Zero TE Imaging*, Bilkent University, 2016

11. **Taraghinia, Soheil**, M.S. Thesis: *A z-Gradient Coil Array System for Magnetic Resonance Imaging*, Bilkent University, 2016
12. **Ariyurek, Cemre**, M.S. Thesis: *Modes of Shear Waves In Magnetic Resonance Elastography*, Bilkent University, 2014
13. **Ozen, Ali C.**, M.S. Thesis: *A Method of Decoupling of Radio-frequency Coils in Magnetic Resonance Imaging: Application to MRI with Ultra-short Echo-time and Concurrent Excitation and Acquisition*, Bilkent University, 2013
14. **Acikel, Volkan**, M.S. Thesis: *Modeling of Radio Frequency Induced Currents on Lead Wires During MR Imaging Using a Modified Transmission Line Method (MoTLiM)*, Bilkent University, 2010
15. **Kerse, M. Can**, M.S. Thesis: *Imitation of Radiofrequency Ablation with Fiber Delivered Laser System for Magnetic Resonance Guided Treatment of Atrial Ablation*, Bilkent University, 2010
16. **Viskusenko, V. Nikolay**, M.S. Thesis: *Endoluminal MR Coils for Interventional Procedures*, 2010
17. **Bayindir, Haldun O.**, M.S. Thesis: *A Novel VERSE Optimal RF Pulse Design Method for Parallel Transmission in Magnetic Resonance Imaging*, Bilkent University, 2009
18. **Abaci, Esra.**, M.S. Thesis: *Analysis of the Electromagnetic Field Inside the Gradient Coils and Investigation of the Nerve and Cardiac Stimulation Risk for the Patients during MRI*, Bilkent University, 2008
19. **Aydogdu, Elif**, M.S. Thesis: *Variable Capacitor Based Mechanical Energy to Electrical Energy Converter*, Bilkent University, 2007
20. **Ermeýdan, Ahmet**, M.S. Thesis: *MRI Compatible Implantable Devices*, Bilkent University, 2007
21. **Eryaman, Yigitcan**, M.S. Thesis: *Optimization of Internal MRI Coils*, Bilkent University, 2007
22. **Irak, Halise**, M.S. Thesis: *Modeling RF Heating of Active Implatable Medical Devices During MRI using Safety Index*, Bilkent University, 2007
23. **Afacan, Onur**, M.S. Thesis: *Piezoelectric Power Generation Using the Vibration of Heart*, Bilkent University, 2006
24. **Celik, Haydar**, M.S. Thesis: *Novel RF Coil Technologies for MRI*, Bilkent University, 2006
25. **Tasci, T. Onur**, M.S. Thesis: *Focused RF Ablation using Magnetic Fluids*, Bilkent University, 2006
26. **Ferhanoglu, Onur**, M.S. Thesis: *Safety of Metallic Implants in Magnetic Resonance Imaging*, Bilkent University, 2005
27. **Memis, O. Gokalp**, M.S. Thesis: *Miniaturized Fiber Optic Transmission System for Magnetic Resonance Imaging Signals*, Bilkent University, 2005
28. **Shah, Vashali C.**, M.S. Thesis: *Thermal Mapping Techniques using MRI*, Johns Hopkins University, 2002
29. **Yung, Andrew C.H.**, M.S. Thesis: *Development and Applications of Intraluminal Coils for MRI*, Johns Hopkins University, 2002
30. **Abdel-Hafez, Imad A.**, M.S. Thesis: *Ultimate Intrinsic SNR in Magnetic Resonance Imaging by Optimization the EM Field Generated by Internal Coils*, Bilkent University, 2000
31. **Aksit, Pelin**, M.S. Thesis: *Multiple FOV MR Flouroscopy*, Johns Hopkins University, 2000
32. **Lee, Joanna S.**, M.S. Thesis: *Post-Processing for the Real-Time Visualization of the Intravascular MR Images*, Johns Hopkins University, 1999

## Engineers

1. **Civan Serhat Cevik (Candidate)**, 2023-2024
2. **Ayfer Akbaba (Candidate)**, 2023-2024
3. **Mehmet Demir**, 2022-2022
4. **Nurbanu Alparslan**, 2021-2022
5. **Mert Bozkurt**, 2019-2021
6. **Ahmet Fatih Yaprak**, 2019-2020
7. **Muhammed Said Aldemir**, 2019-2021
8. **Ozan Koray Esen**, 2018-2018
9. **Gamze Zeynep Bilici**, 2018-2019
10. **Erhan Erkoseoglu**, 2018-2019
11. **Ozan Emir**, 2017-2018

12. Ugur Yilmaz, 2017-2020
13. Soheil Taraghinia, 2017-2021
14. Berk Silemek, 2013-2018
15. Umut Gundogdu, 2012-2019
16. Taner Demir, 2009-2016
17. Burak Akin, 2008-2012
18. Di Qian, 2004-2005
19. Parag V Karmarkar, 2003-2005
20. Ananda Kumar, 2001-2003
21. Harald Quick, 2000-2000

## Research Funding: Current

- + 2023-2026 European Commission, HORIZON-CSA, Project Title: Twinning of Magnetic Resonance Imaging Research Institutes, Acronym: MRTwins, **Coordinator**, 1 500 000 Euros, Bilkent Budget: 750 000 Euros.
- + 2023-2026 TUBITAK 1004 23AG005 Project Title: İnsan Fonksiyonunu Tehdit Eden Zorluklara Karşı Nöroteknolojik Çözümler Platformu, **Leader of Bilkent University Component**, Coordinator: Can Yucesoy, Bilkent Funding: 12 000 000TL
- + 2023-2025 TUBITAK 1001 123E024 Project Title: Manyetik Rezonans Görüntüleme Cihazları İçin Gradyan Dizisi Ve Rf Verici Dizisi Sürme Yetenekli Spektrometrenin Tasarımı Ve Gerçekleştirilmesi, **Principal Investigator** 1 200 000TL
- + 2021-2023 TUBITAK JPCOFUND 121N028 The EU Joint Programme - Neurodegenerative Disease Research (JPND) Project, Title: Spinocerebellar ataxias: Advanced imaging with ultra-high field MRI, **Principal Investigator of Work Package 5**, PI: Tony Stoecker, Bilkent funding: 1 200 000TL.
- + 2021-2023 TUBITAK 1001 121E128 Project Title: Design and Implementation of a Set of Z-Gradient Array and an Active-Shield Array for Magnetic Resonance Imaging, **Co-Investigator**, PI: Manoucher Takrimi, 1 200 000TL

## Research Funding: Past

- + 2019-2022 TUBITAK 1001 119E116 Project Title: *Manyetik Rezonans Görüntüleme Cihazları için Dairesel Radyo-Frekans Sargı Dizilerinin Analizi, Tasarımı ve Yapımı* **Principal Investigator** 696,300TL
- + 2019-2021 ASELSAN Project Title: *MR Görüntüleme Sistemi Geliştirme Projesi* **Principal Investigator** 350,000USD
- + 2018-2021 TUBITAK 1001 117E817 Project Title: *Beyin Manyetik Rezonans Elastografisinin Güvenliği ve Optimizasyonu* **Principal Investigator** 341,181TL
- + 2017-2020 Strateji ve Bütçe Başkanlığı Project Title: *Preklinik Görüntüleme Yardımı ile Asi Test ve Geliştirme* **Principal Investigator** 9,400,000TL
- + 2017-2022 ASELSAN, (supported by TUBITAK TEYDEB) Project Title: *Çok Kanallı Gradyan Bobin Dizisi Tasarımı, Sinyal Üretici ve Kontrol Kartı Geliştirilmesi ve Prototip Üretimi* **Principal Investigator** 1,100,000TL
- + 2017-2018 TUBITAK 1000 Project Title: *Bilkent Üniversitesi Ar-Ge Strateji Belgesi (Sinir Bilimleri)* **Principal Investigator** 0TL
- + 2017-2020 TUBITAK 1001 (116E270) Project Title: *Manyetik Rezonans Görüntüleme Cihazı İçin Özelleştirilmiş E-Sınıfı Sayısal Radyo Frekans Yükselteci Dizisi* **Principal Investigator** 360,000TL
- + 2015-2016 ASELSAN Project Title: *36 Kanallı RF Bobin Dizisi Tasarımı, Geliştirilmesi ve Prototip Üretimi* **Principal Investigator** 500,000TL
- + 2014-2016 SANTEZ Project Title: *Implant Uyumlu MR Cihazı (Implant Compatible MR Scanner)* **Principal Investigator** 621,000TL

- + 2014-2017 TUBITAK 1001 (114E186) Project Title: *Etkin Ayrıştırma Yöntemi Kullanarak Sifir Eko Zamanlı Manyetik Rezonans Görüntülemesi (Zero Echo Time Magnetic Resonance Imaging Using Active Decoupling Technique)* **Principal Investigator** 390,000TL
- + 2013-2015 TR Ministry of Development Project Title: *Ulusal Manyetik Rezonans Araştırma Merkezi Faz II (National Magnetic Resonance Research Center (UMRAM) Phase II)* **Principal Investigator** 5,100,000TL
- + 2013-2016 TUBITAK 1001 (103S959) Project Title: *Ailesel El Titremesi (Essential Tremor-ETM)'nin Genetik, Yapısal ve İşlevsel Temellerinin Araştırılması* **Consultant** Principal Investigator: Tayfun Özcelik, 360,000TL
- + 2013-2016 TUBITAK 1001 (102K069) Project Title: *İnsan Beyninin Yapısal Ve İşlevsel Mimarisinin Genetik Kökenli Merkezi Sinir Sistemi Bozuklukları İncelenerek Araştırılması* **Consultant** Principal Investigator: Tolga Cukur, 360,000TL
- + 2013-2016 TUBITAK 3501 (113E187) Project Title: *Manyetik Rezonans Görüntüleme Altında Hızlı Ve Güvenilir Özgül Sogurma Oranı Ve İsi lerinin Geliştirilmesi* **Consultant** Principal Investigator: Tahir Malas, 360,000TL
- + 2013-2016 TUBITAK 3501 (114E167) Project Title: *Kanser Görüntüleme İçin Manyetik Parçacık Görüntüleme: Bolgesel Difüzyon Algılama* **Consultant** Principal Investigator: Emine Ulku Saritas, 360,000TL
- + 2013-2016 TUBITAK 3501 (114E546) Project Title: *Kategori Hedefli Doğal GÃ¶rsel Taramanın İnsan Beyninde GÃ¶rsel Temsillere ve İşlevsel Bağlantılara Etkisi* **Consultant** Principal Investigator: Tolga Cukur, 360,000TL
- + 2013-2016 TUBITAK 3501 (113S001) Project Title: *Dejeneratif Resesif Ataksilerin Nozolojisi ve Molekoler Tanisi* **Co-Investigator** Principal Investigator: Haluk Topaloglu, 360,000TL
- + 2012-2016 TUBITAK 1001 (112E555) Project Title: *Doğrusal Olmayan Gradyanlar Manyetik Alanın Manyetik Rezonans Görüntülemesindeki Uygulamaları (Applications of Nonlinear Gradient Fields in Magnetic Resonance Imaging)* **Principal Investigator** 385,000TL
- + 2010-2013 TUBITAK 1001 (109E226) Project Title: *Verici Sargı Dizilimi İle Manyetik Rezonans Görüntülemesi Sirasında Olusan Özgül Sogurma Hızının Azaltılması* **Principal Investigator** 385,000TL
- + 2010-2013 TUBITAK TEYDEB Project Title: *Endoservikal Manyetik Rezonans Görüntüleme* **Principal Investigator** 300,000TL
- + 2010-2013 TUBITAK 1001 Project Title: *Femtosaniye Nanobiyofotonik için İleri Fiber Çözümleri* **Consultant** Principal Investigator: Omer İlday, 262,794TL
- + 2009-2010 University of Minnesota, A Collaborative Project Project Title: *Producing Miniaturized RF Signal Fiber Optic Transmission System for 7 Tesla MRI Scanners* **Principal Investigator** 30,000USD
- + 2009-2012 TUBITAK 1001 Project Title: *Baglamin Gorsel Algıya Etkileriyle İlgili Olarak İnsan Korteksindeki Sinirsel Etkinliklerin ve İşlevsel Bağlantıların İncelenmesi* **Consultant** Principal Investigator: Huseyin Boyacı, 385,000TL
- + 2009-2012 TUBITAK 1001 Project Title: *İnsanlarda Gelişimsel Sinir Sistemi Hastalıklarına Neden Olan Mutasyonların Gorsel ve Motor Sisteminin Yapısal ve İşlevsel Organizasyonuna Etkilerinin Araştırılması* **Consultant** Principal Investigator: Emre Özgen, 395,700TL
- + 2008-2011 TUBITAK 1001 Project Title: *Girisimsel MRG de Kateterlerin Yerinin Otomatik Olarak Belirlenebilmesi İçin Yeni Bir Tümlsik Mikro Optoelektronik Sistem* **Consultant** Principal Investigator: Arda Deniz Yalcinkaya, 422,580TL + 2007-2009 DPT Project Title: *Girisimsel ve Tanısal Manyetik Rezonans Araştırma Merkezi* **Principal Investigator** 6,490,000TL
- + 2007-2011 SANTEZ Project Title: *Manyetik Rezonans Uyumlu Elektrofizyoloji Araçları* **Principal Investigator** 800,000TL
- + 2007-2011 TUBITAK 1001 Project Title: *Manyetik Rezonans Görüntülemesi Yönteminin Hastalara Takılan Uyarıcı Elektronik Cihazlar Üzerindeki Etkilerinin İncelenmesi* **Principal Investigator** 360,000TL
- + 2007-2009 TUBITAK TEYDEB Project Title: *Manyetik Rezonans Görüntüleme Uyumlu Elektrofizyoloji Araçları* **Principal Investigator** 400,000TL
- + 2004-2006 FP6 MRIG-CT-2004-506262 Project Title: *Magnetic Resonance Imaging Compatible Cardiac Pacemakers and Implantable Cardioverter-Defibrilators* **Principal Investigator** 80,000EUR
- + 2003-2008 NIH R01 Project Title: *Imaging Cardiac Regeneration with Mesenchyma Stem Cell* **Co-Investigator** Principal Investigator: Dara Kraichman, 1,300,000USD

- + 2002-2005 NIH R21 Project Title: *Mesenchymal Stem Cell and Ventricular Remodeling* **Co-Investigator** Principal Investigator: Joshua M. Hare, 60,000USD
- + 2001-2004 NIH R01 Project Title: *Digital optical imaging of vascular gene expression* **Co-Investigator** Principal Investigator: Xiaoming Yang, 1,000,000USD
- + 2001-2004 US Army Project Title: *Endo-urethral MRI guided Prostate Ablation* **Principal Investigator** 225,000USD
- + 2001-2005 NIH R01 Project Title: *Intravascular MRI-Enhanced Vascular Gene Transfer* **Co-Investigator** Principal Investigator: Xiaoming Yang, 1,300,000USD
- + 2001-2006 NIH R01 Project Title: *Innovative MRI Research Technology* **Co-Investigator** Principal Investigator: Paul A. Bottomley, 2,000,000USD
- + 2001-2004 NSF PER Project Title: *Supplement to Center for Medical Robotics and Computer-Assisted Interventional Systems and Technology* **Principal Investigator** 309,678USD
- + 1999-2000 Gatewood Fellowship Project Title: *High Resolution Endourethral MRI of the Female Urethra and Urethral support tissues with pathological correlation* **Co-Investigator** Principal Investigator: Harpreet Pannu, 10,000USD + 1999-2001 CIRREF Project Title: *IVMRI guided vascular interventions* **Co-Investigator** Principal Investigator: Xiaoming Yang, 25,000USD
- + 1999-2004 NIH R01 Project Title: *Harmonic Phase MRI for Ultrafast Cardiac Strain Imaging* **Co-Investigator** Principal Investigator: Jerry Prince, 1,500,000USD
- + 1998-1999 Whitaker Foundation, Biomedical Engineering Transitional Grant Project Title: *High Resolution Imaging and Spectroscopy of Atherosclerotic Plaques using Intravascular MRI* **Principal Investigator** 65,000USD
- + 1998-2000 SurgiVision Inc., Research Grant Project Title: *Development of MR Probes* **Principal Investigator** 392,528USD
- + 1998-2003 NIH R01 Project Title: *Intravascular Magnetic Resonance: Towards Clinical Interventions* **Principal Investigator** 813,354USD
- + 1998-2008 NSF Engineering Research Center Project Title: *Center for Medical Robotics and Computer-Assisted Interventional Systems and Technology* **Co-Investigator** Principal Investigator: Russel Taylor, 6,000,000USD
- + 1997-2005 NIH R01 Project Title: *MR-guided Coronary Balloon Angioplasty* **Principal Investigator** 1,900,000USD
- + 1995-1998 Whitaker Foundation, Biomedical Engineering Research Grant Project Title: *High Resolution Imaging and Spectroscopy of Atherosclerotic Plaques using Intravascular MRI* **Principal Investigator** 179,941USD
- + 1995-1999 NIH, SCOR is ischemic heart disease Project Title: *Project 6: Metabolic Characterization of Reperfused Dysfunction Myocardium by NMR* **Co-Investigator** Principal Investigator: Lewis Becker, 5,969,014USD
- + 1995-2000 NIH R01 Project Title: *Dynamic 3D tagged MRI of the Cardiac Cycle in Ischemia* **Co-Investigator** Principal Investigator: Elliot R. McVeigh, 1,595,464USD
- + 1994-1996 US Army, Innovative developmental and exploratory award Project Title: *In-vivo microscopic MR imaging of breast lesions* **Co-Principal Investigator** Principal Investigator: Elias A. Zerhouni, 149,948USD

## US Patents

- 54. Atalar, E., Kazemivalipour, Eigenmode transmit array coil for magnetic resonance imaging, US patent no: 11740301, 29 Aug 2023 Assigned to Bilkent University
- 53. Atalar, E., Ertan, K.N. and Taraghinia, S., A Gradient Array System for MRI and Application on Diffusion Weighted Imaging, US patent no: 11287498, 29 Mar 2022 Assigned to Bilkent University
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323. Arslan, A. E., and Atalar E., Low-cost high-efficiency on-coil class-E amplifier transmit array with dynamic digital phase control for 3T MRI, ESMRMB, Barcelona, Spain. 2-5 October 2024
322. Ozturk, M. E., Babaloo, R., Atalar, E., Saritas, E. U., Pulse Sequence Design for Gradient Arrays in MRI, ISMRM, Singapore, 2024
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319. Tasdelen, B., Utkur, M., Alpman, A., Top, C. B., Atalar, E., Saritas, E. U., Vector Modulator Based Active Compensation of Direct Feedthrough in Magnetic Particle Imaging, IWMPPI, Flüeli-Ranft, Switzerland, 2024
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