# Beril Alyuz Yilmaz

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## RESEARCH INTERESTS

MRI, Deep Learning, Computer Vision, Image Reconstruction & Synthesis, Super-resolution

## EDUCATION

**University of California, Los Angeles (UCLA)** — California, USA
Doctor of Philosophy in Bioengineering, GPA: 3.85/4.00 — September 2023 – August 2028 (Expected)
Advisor: Prof. Debiao Li

**Bilkent University** — Ankara, TURKEY
MSc. in Electrical and Electronics Engineering, GPA: 3.56/4.00 — August 2020 – September 2023
Advisor: Assoc. Prof. Emine Ulku Saritas

**Bilkent University** — Ankara, TURKEY
Minor Program in Philosophy, GPA: 3.85/4.00 — January 2018 – June 2020

**Bilkent University** — Ankara, TURKEY
BSc. in Electrical and Electronics Engineering, GPA: 3.54/4.00 — August 2016 – June 2020

## JOURNAL PUBLICATIONS

**B. Alyuz**, S. Qiu, H-L Lee, C. Gao, S. Madhusoodhanan, N. Sicotte, P. Sati, Y. Xie, D. Li, "DeepAcq: Ultra-Fast Qualitative and Quantitative Brain MRI". In preparation.

M. Kafali, O. B. Sahinoglu, Y. Tufan, Z. C. Orsel, E. Aygun, **B. Alyuz**, E. U. Saritas, E. Y. Erdem, and B. Ercan, "Antibacterial properties and osteoblast interactions of microfluidically synthesized chitosan - SPION composite nanoparticles". Journal of biomedical materials research. Part A, 111(11), 1662–1677.

## CONFERENCE ABSTRACTS

**B. Alyuz,** S. Qiu, H-L Lee, C. Gao, S. Madhusoodhanan, N. Sicotte, P. Sati, Y. Xie, D. Li, "Ultra-fast High-Resolution Multi-Contrast Qualitative and Quantitative MRI of the Entire Brain in 3 minutes", 2025 ISMRM & ISMRT Annual Meeting & Exhibition, 2025.

**B. Alyuz**, M. T. Arslan, M. Utkur, and E. U. Saritas, "Single-Pass Relaxation Mapping at Multiple Frequencies Using an Arbitrary Waveform MPI Scanner", Proc of the 12th IWMPI, IJMPI, vol. 9, no. 1, Suppl 1, 2023.

**B. Alyuz**, M. T. Arslan, M. Utkur, and E. U. Saritas, "An Arbitrary Waveform MPI Scanner", Proc of the 11th IWMPI, IJMPI, vol. 8, no. 1, Suppl 1, 2022.

## PRESENTATIONS

**Oral:** "Ultra-fast High-Resolution Multi-Contrast Qualitative and Quantitative MRI of the Entire Brain in 3 minutes". ISMRM & ISMRT Annual Meeting & Exhibition, May 2025.

**Poster:** "Single-Pass Relaxation Mapping at Multiple Frequencies Using an Arbitrary Waveform MPI Scanner". IWMPI, March 2023.

**Oral:** "Multi-frequency Relaxation Mapping using an Arbitrary Waveform Magnetic Particle Imaging Scanner". Bilkent University EEE Graduate Research Conference, January 2023.

**Poster:** "An Arbitrary Waveform MPI Scanner". IWMPI, March 2022.

**Poster:** "An Untuned Arbitrary Waveform MPI Scanner". Bilkent University EEE Graduate Research Conference, January 2022.

## HONORS & AWARDS

**ISMRM Magna Cum Laude Merit Award** — 2025
Given to the top 15% of abstracts within a major subject review category.

**UCLA Bioengineering Departmental Fellowship** 2023 Fall
Registration, nonresident tuition and stipend.

**Bilkent University Graduate Study Comprehensive Scholarship** August 2020 – August 2023
Full tuition waiver and stipend.

**Bilkent University Erasmus+ Student Traineeship Program** July 2019 – September 2019
Stipend during the internship at Institute for Biomedical Imaging.

**Bilkent University 50 % Scholarship** August 2016 – June 2020
Half tuition waiver during the Bachelor of Science program.

**Turkish National University Placement Exam** 2016
Ranked top 0.13% in the Quantitative category.

## ACADEMIC EXPERIENCE

**Visiting Graduate Student as Research Intern** September 2024 – Current
*Biomedical Imaging Research Institute, Cedars-Sinai Medical Center* Los Angeles, CA, USA

**Research Assistant** August 2020 – September 2023
*National Magnetic Resonance Research Center (UMRAM), Bilkent University* Ankara, Turkey

## TEACHING EXPERIENCE

**Teaching Assistant** 2020/21 Fall – 2022/23 Spring
*Bilkent University* Ankara, Turkey
EEE493 & 494: Industrial Design Project I & II

**Grader** 2018/19 Fall
*Bilkent University* Ankara, Turkey
PHYS101: Physics I

**Grader** 2017/18 Fall
*Bilkent University* Ankara, Turkey
MATH101: Calculus I

## WORK EXPERIENCE

**Research Intern** July 2019 – September 2019
*Institute for Biomedical Imaging at UKE and TUHH* Hamburg, Germany
Simulation for 3-Channel Gradiometer Receive and Cancellation Coils for Bruker MPI Scanner: Implemented simulation module that returns the optimal number of turns for receive coils given the dimensions of the coil and the optimal number of turns and the distance for cancellation coils in Julia.

**Intern** June 2019 - July 2019
*Polaran, Bilkent-Cyberpark* Ankara, Turkey
Raptor Codes for Forward Error Correction Scheme for Object Delivery: Implemented the standard RFC5053 and binary erasure channels and tested the code for the standard RFC5053 on the implemented binary erasure channels in MATLAB.

**Research Intern** August 2018 – September 2018
*National Magnetic Resonance Research Center (UMRAM), Bilkent University* Ankara, Turkey
Design of a Homogeneous Head Coil for MPI: Developed a MATLAB simulation of a homogeneous coil to study the effects of rapidly changing magnetic fields on conductive tissue (e.g., peripheral and cardiac nerves), aiming to determine time-varying magnetic field limits for a potential head-sized MPI scanner.

## SKILLS

**Languages:** Turkish (Native), English (Proficient, TOEFL iBT: 113/120)

**Programming:** Python, Java, MATLAB, C++, Julia

**Software:** PyTorch, TensorFlow, COMSOL Multiphysics®, LTSpice, Solidworks, Fusion 360, Adobe Illustrator