# Asst. Prof. Aykut Yıldız

## Personal Information

**Office Phone:** +90 312 585 0278
**Email:** aykut.yildiz@tedu.edu.tr
**Web:** https://avesis.tedu.edu.tr/aykut.yildiz

**International Researcher IDs**
ScholarID: cUwNDBAAAAAJ&hl=en
ORCID: 0000-0002-5194-9107
Publons / Web Of Science ResearcherID: G-6344-2018
ScopusID: 36783823900
Yoksis Researcher ID: 202236

## Biography

Dr. Aykut Yıldız received his BS degree in Bilkent University with 6 high honour semesters. He received his MS degree from department chair Prof. Orhan Arıkan in Bilkent University. He received his PhD degree from former department chair Prof. Bülent Özgüler also in Bilkent University. In 2007, he was an R&D engineer in ASELSAN HC department on software and hardware design of automated test systems. During 2007-2010, he was a research assistant in TÜBİTAK project on Millimeter Wave Radars (MILDAR). During 2010-2011, he worked at TÜBİTAK Project on Earthquake Detection using Ionospheric Data. During 2011-2012, he participated in ASELSAN Servo Control Project. During 2014-2017, he performed in TÜBİTAK Project on Game Theoretical Swarm Modelling. In his career, he has won TÜBİTAK BİDEB scholarship, TÜBİTAK scholarship for research areas with high priority as well as TÜBİTAK R&D project scholarship. He has published papers in reputable journals such as IEEE Transactions and Elsevier. He is also acting as a reviewer of those journals. His research interest are in system theory, control theory, and swarm theory.

## Education Information

Doctorate, Ihsan Dogramaci Bilkent University, Turkey 2010 - 2016
Postgraduate, Ihsan Dogramaci Bilkent University, Turkey 2007 - 2010
Undergraduate, Ihsan Dogramaci Bilkent University, Turkey 2001 - 2007

## Foreign Languages

Japanese
Italian
French
English, C2 Mastery
Russian
German

## Certificates, Courses and Trainings

Diction Course Certificate, Bilkent University, Continues
Photoshop certificate, Bilge Adam, Continues
Wordpress certificate, cahem, Continues
Introduction to power electronics, coursera, Continues

## Academic Titles / Tasks

Assistant Professor, TED University, Faculty of Engineering, Dept.of Electric&Electronics Engineering, 2017 - Continues

## Academic and Administrative Experience

I wrote Part 4 of MÜDEK accreditation report, 2019 - Continues
Summer practice coordinator of EE department, TED University, Faculty Of Engineering, Dept.Of Electric&Electronics
Engineering, 2018 - 2023
Discipline investigation of student Ardan Özkil, 2021 - 2021

## Courses

Summer Practice I, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018
Summer Practice II, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018
Feedback Control Systems, Undergraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 -
2017
Senior Project II, Undergraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019
Digital Signal Processing, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2016 - 2017
Software Tools for Electrical Engineering, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 -
2019, 2017 - 2018
Senior Project I, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018
Power Electronics, Undergraduate, 2017 - 2018
Numerical Methods for Engineering, Undergraduate, 2017 - 2018
Electrical and Electronic Circuits Laboratory, Undergraduate, 2016 - 2017
Digital Logic Design, Undergraduate, 2016 - 2017

## Jury Memberships

Post Graduate, Post Graduate, Başkent Üniversitesi, September, 2022
Post Graduate, Post Graduate, Başkent Üniversitesi, September, 2022
April, 2020

## Published journal articles indexed by SCI, SSCI, and AHCI

I. **A game approach to multi-dimensional opinion dynamics in social networks with stubborn strategist
agents**
Jond H. B., Yıldız A.
European Journal of Control, vol.75, 2024 (SCI-Expanded)
II. **Connected and automated vehicle platoon formation control via differential games**
Jond H. B., Yıldız A.
IET Intelligent Transport Systems, vol.17, no.2, pp.312-326, 2023 (SCI-Expanded)

III. **Opinion dynamics of stubborn agents under the presence of a troll as differential game**
Yıldız A., Ozguler A. B.
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.29, no.7, pp.3259-3269, 2021
(SCI-Expanded)

IV. **Foraging motion of swarms with leaders as Nash equilibria**
Yıldız A., Ozguler A. B.
AUTOMATICA, vol.73, pp.163-168, 2016 (SCI-Expanded)

V. **Partially Informed Agents Can Form a Swarm in a Nash Equilibrium**
Yıldız A., Ozguler A. B.
IEEE TRANSACTIONS ON AUTOMATIC CONTROL, vol.60, no.11, pp.3089-3094, 2015 (SCI-Expanded)

VI. **Foraging Swarms as Nash Equilibria of Dynamic Games**
Ozguler A. B., Yıldız A.
IEEE TRANSACTIONS ON CYBERNETICS, vol.44, no.6, pp.979-987, 2014 (SCI-Expanded)

## Articles Published in Other Journals

I. **Planar Swarming Motion under Single Leader as Nash Equilibrium**
Yıldız A.
2017

II. **POLİNOMSAL SİNYALLERDE PARÇACIK SÜRÜSÜ OPTİMİZASYONU TABANLI GÜRÜLTÜ BASTIRIMI**
Yıldız A., orhan a.
2010

## Books & Book Chapters

I. **FORAGING MOTION OF SWARMS AS NASH EQUILIBRIA OF DIFFERENTIAL GAMES**
Yıldız A.
2016

II. **POLYNOMIAL FITTING AND TOTAL VARIATION BASED TECHNIQUES ON 1-D AND 2-D SIGNAL DENOISING**
Yıldız A.
2010

## Refereed Congress / Symposium Publications in Proceedings

I. **Shooting Method for Opinion Dynamics**
Yıldız A., Jond H. B.
46th International Conference on Telecommunications and Signal Processing, TSP 2023, Virtual, Online, Czech
Republic, 12 - 14 July 2023, pp.56-59

II. **Vehicle Swarm Platooning as Differential Game**
Yıldız A., Jond H. B.
20th International Conference on Advanced Robotics (ICAR), ELECTR NETWORK, 7 - 10 December 2021, pp.885-
890

III. **Consensus as a Nash Equilibrium of a Dynamic Game**
Niazi M. U. B., Ozguler A. B., Yıldız A.
12th International Conference on Signal-Image Technology and Internet-Based Systems (SITIS), Naples, Italy, 28
November - 01 December 2016, pp.365-372

IV. **Swarming behavior as Nash equilibrium**

Ozgüler A. B., Yıldız A.

3rd IFAC Workshop on Distributed Estimation and Control in Networked Systems, NECSYS 2012, Santa Barbara, CA, United States Of America, 14 - 15 September 2012, vol.45, pp.151-155

V. **Spatio-temporal interpolation of ionospheric TEC data İyonosfer TEİ verilerinin uzay-zamansal aradeğerlemesi**

Yıldız A., Arikan O., ARIKAN F.

2011 IEEE 19th Signal Processing and Communications Applications Conference, SIU 2011, Antalya, Turkey, 20 - 22 April 2011, pp.817-820

VI. **Signal denoising by piecewise continuous polynomial fitting Parçali sürekli sinyallerde parametrik modelleme ile gürültü bastirimi**

Yıldız A., Arikan O.

18th IEEE Signal Processing and Communications Applications Conference, SIU 2010, Diyarbakır, Turkey, 22 - 24 April 2010, pp.69-72

VII. **Toplam Degis¸im Enkuc¸ultmesiyle ISAR Imgelerinin Gurultu Bastirimi**

Yıldız A., arıkan o.

## Scientific Refereeing

IEEE Transactions on Intelligent Vehicles, SCI Journal, August 2022

IEEE CDC, Conference Paper (Full Text), April 2022

IEEE TRANSACTIONS ON CYBERNETICS, December 2021

IEEE TRANSACTIONS ON AUTOMATIC CONTROL, December 2021

IEEE Transactions on Signal and Information Processing over Networks, November 2020

IEEE TRANSACTIONS ON CYBERNETICS, August 2020

## Scientific Consultations

quora, Ted University, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, Turkey, 2020 - Continues

TED university, Ted University, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, Turkey, 2019 - 2019

## Scientific Research / Working Group Memberships

I shared all the documents of ee461 course with Mehmet Karaca, 2019 - Continues

I shared all the documents of EE403 course with Muhsin Caner Gökçe, 2019 - Continues

I shared ee222 syllabus with Asst. Prof. Muhsin Caner Gökçe, 2019 - Continues

I organized ee309 final of Prof.Erdem Yazgan, 2019 - Continues

els den sercan çelik le ders tasarımı üzerine konuştum, 2021 - 2021