

## Asst. Prof. AYHAN AYDIN

### Personal Information

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### International Researcher IDs

ScholarID: 65yCL6sAAAAJ

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Publons / Web Of Science ResearcherID: R-7950-2019

ScopusID: 56603725800

Yoksis Researcher ID: 104978

### Education Information

Post Doctorate, Diamond Light Source, Beam Diagnostic, United Kingdom 2019 - 2020

Post Doctorate, DESY, Deutsches Elektronen-Synchrotron, Deutsches Elektronen-Synchrotron, Germany 2018 - 2018

Doctorate, Gazi University, Fen Bilimleri Enstitüsü, Fizik (Dr), Turkey 2004 - 2017

Postgraduate, Cankaya University, Faculty Of Engineering, Department Of Computer Engineering, Turkey 2001 - 2004

Undergraduate, Ondokuz Mayıs University, Faculty Of Arts And Sciences, Department Of Physics, Turkey 1997 - 2000

### Dissertations

Doctorate, Tarla tesisi için demet pozisyon mobitörü tasarımı ve kontrol elektroniği sistemi, Gazi University, Kore Dili ve Edebiyatı Anabilim Dalı, Fizik (Dr), 2017

Postgraduate, Smart sensors, Cankaya University, Fen Bilimleri Enstitüsü, Bilgisayar Mühendisliği (YI) (Tezli), 2004

### Research Areas

Natural Sciences, Engineering and Technology

### Academic Titles / Tasks

Assistant Professor, Ankara University, Nallıhan Meslek Yüksekokulu, Bilgisayar Teknolojileri Bölümü, 2022 - Continues

Lecturer PhD, Ankara University, Nallıhan Meslek Yüksekokulu, 2021 - 2022

Lecturer PhD, Ankara University, Mühendislik Fakültesi, Bilgisayar Mühendisliği Bölümü, 2012 - 2022

Lecturer PhD, Ankara University, Rektörlük, Enformatik Bölümü Başkanlığı, 2004 - 2012

Research Assistant, Cankaya University, Faculty Of Engineering, Department Of Computer Engineering, 2000 - 2004

### Academic and Administrative Experience

Director of Vocational School, Ankara University, Nallıhan Meslek Yüksekokulu, 2021 - Continues

Assistant Director of the Institute, Ankara University, Hızlandırıcı Teknolojileri Enstitüsü, Hızlandırıcı Teknolojileri Anabilim Dalı, 2021 - 2021  
Assistant Director of Vocational School, Ankara University, Nallıhan Meslek Yüksekokulu, 2011 - 2013  
Deputy Head of Department, Ankara University, 2009 - 2010

## Courses

Sayısal Elektronik, Associate Degree, 2022 - 2023  
Uzmanlık Alan Dersi, Doctorate, 2022 - 2023  
Bilgisayar Sistemleri Güvenliği, Associate Degree, 2022 - 2023  
Bilgisayar Mimarisi, Undergraduate, 2022 - 2023  
Paralel İşlemciler, Doctorate, 2022 - 2023  
Sayısal Tasarım, Associate Degree, 2022 - 2023  
Tez Çalışması, Postgraduate, 2022 - 2023  
SAYISAL TASARIM, Associate Degree, 2022 - 2023  
Sayısal Mantık Tasarımı, Undergraduate, 2022 - 2023  
Research Techniques I, Undergraduate, 2022 - 2023  
Gömülü Sitem Programlama, Undergraduate, 2022 - 2023  
Temel Elektrik ve Elektronik, Associate Degree, 2022 - 2023  
COM275-Digital Logic Design, Undergraduate, 2018 - 2019, 2017 - 2018  
CHE137-138 Computer Programming, Undergraduate, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016, 2014 - 2015, 2013 - 2014, 2012 - 2013, 2011 - 2012  
COM474-Embedded System Design, Undergraduate, 2018 - 2019, 2017 - 2018, 2016 - 2017  
CHE137 Computer Programming, Undergraduate, 2017 - 2018, 2016 - 2017  
COM323-Electronics I, Undergraduate, 2017 - 2018  
COM479- Embedded System Programming, Undergraduate, 2016 - 2017, 2013 - 2014  
Görüntü İşleme, Undergraduate, 2013 - 2014  
Uzaktan Algılama, Undergraduate, 2013 - 2014  
Computer Programming, Undergraduate, 2013 - 2014  
Nesne Tabanlı Programlama, Associate Degree, 2012 - 2013  
Programlama Temelleri, Associate Degree, 2012 - 2013  
Introduction to Computer Programming, Undergraduate, 2012 - 2013

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

- I. **Optimization of synchrotron radiation parameters using swarm intelligence and evolutionary algorithms**  
Karaca A. S., BOSTANCI G. E., KETENOĞLU D., Harder M., CANBAY A. C., KETENOĞLU B., Eren E., AYDIN A., Yin Z., GÜZEL M. S., et al.  
Journal of Synchrotron Radiation, vol.31, no.Pt 2, pp.420-429, 2024 (SCI-Expanded)
- II. **Escape rate in ac SQUID on Josephson junction based on single- and multi-band superconductors in thermal activation regime**  
Aydin A., Askerbeyli İ., Askerbeyli R.  
LOW TEMPERATURE PHYSICS, vol.49, no.9, pp.1005-1008, 2023 (SCI-Expanded)
- III. **Semantic Segmentation with High-Resolution Sentinel-1 SAR Data**  
Erten H., Bostanci E., Acici K., Guzel M. S., Asuroglu T., Aydin A.  
APPLIED SCIENCES-BASEL, vol.13, no.10, 2023 (SCI-Expanded)
- IV. **A dedicated application of evolutionary algorithms: synchrotron X-ray radiation optimization based on an in-vacuum undulator**

Ketenoglu B., Bostanci E., Ketenoglu D., Canbay A. C., Harder M., Karaca A. S., Eren E., Aydin A., Yin Z., Guzel M. S., et al.

CANADIAN JOURNAL OF PHYSICS, vol.102, no.3, pp.145-151, 2023 (SCI-Expanded)

- V. **Frustration effect on escape rate in Josephson junctions between single-band and three-band superconductors in the macroscopic quantum tunneling regime**

ASKERBEYLİ İ., AYDIN A.

LOW TEMPERATURE PHYSICS, vol.47, no.4, pp.282-286, 2021 (SCI-Expanded)

- VI. **Adaptation of metaheuristic algorithms to improve training performance of an ESZSL model**

ÖZSARI Ş., GÜZEL M. S., BOSTANCI G. E., AYDIN A.

TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.29, no.3, pp.1781-1796, 2021 (SCI-Expanded)

- VII. **Optimization of SASE operation for an X-ray free-electron laser Using multiple objective evolutionary algorithms**

AYDIN A., KETENOĞLU B., Bostanci E.

INDIAN JOURNAL OF PURE & APPLIED PHYSICS, vol.58, no.8, pp.635-641, 2020 (SCI-Expanded)

- VIII. **A multiple objective evolutionary algorithm approach to find optimal design parameters for beam position**

AYDIN A., Bostanci E., TANRIÖVER Ö. Ö.

INTERNATIONAL JOURNAL OF MODERN PHYSICS C, vol.31, no.3, 2020 (SCI-Expanded)

- IX. **Design of an X-ray undulator: optimization considerations for SASE operation**

KETENOĞLU B., AYDIN A., YAVAŞ Ö.

CANADIAN JOURNAL OF PHYSICS, vol.97, no.11, pp.1177-1181, 2019 (SCI-Expanded)

- X. **Current status of Turkish accelerator and radiation laboratory in Ankara: the TARLA facility**

AKSOY A., Karsli O., AYDIN A., KAYA Ç., KETENOĞLU B., KETENOĞLU D., YAVAŞ Ö.

CANADIAN JOURNAL OF PHYSICS, vol.96, no.7, pp.837-842, 2018 (SCI-Expanded)

## Articles Published in Other Journals

- I. **USB-IDS-1 dataset feature reduction with genetic algorithm**  
M. V., ÖZSARI Ş., AYDIN A., Guzel M.  
Communications Faculty of Sciences University of Ankara Series A2-A3: Physical Sciences and Engineering, vol.66, no.1, pp.26-44, 2024 (Peer-Reviewed Journal)
- II. **RF ANTENNA DESIGN FOR BUTTON-TYPE BEAM POSITION MONITORS USING BIO-INSPIRED OPTIMIZATION METHODS**  
AYDIN A., Bostanci G. E.  
Communications Faculty of Sciences University of Ankara Series A2-A3: Physical Sciences and Engineering, vol.62, no.1, pp.63-70, 2020 (Peer-Reviewed Journal)
- III. **MODERN LEARNING TECHNIQUES AND PLANT IMAGE CLASSIFICATION**  
ÜNAL M., BOSTANCI E., GÜZEL M. S., AYDIN A.  
Communications Faculty of Sciences University of Ankara Series A2-A3: Physical Sciences and Engineering, vol.62, no.2, pp.153-163, 2020 (Peer-Reviewed Journal)
- IV. **MODERN LEARNING TECHNIQUES AND PLANT IMAGE CLASSIFICATION**  
ÜNAL M., BOSTANCI G. E., GÜZEL M. S., AYDIN A.  
Communications Faculty of Sciences University of Ankara Series A2-A3: Physical Sciences and Engineering, 2020 (Peer-Reviewed Journal)
- V. **A hard X-ray self-amplified spontaneous emission free-electron laser optimization using evolutionary algorithms for dedicated user applications**  
KETENOĞLU D., BOSTANCI G. E., AYDIN A., KETENOĞLU B.  
TURKISH JOURNAL OF PHYSICS, vol.43, no.6, pp.551-555, 2019 (ESCI)
- VI. **Design studies for the beam position monitor (BPM) front-end electronics of the Turkish accelerator**

**and radiation laboratory in Ankara (TARLA)**

AYDIN A., KASAP E.

TURKISH JOURNAL OF PHYSICS, vol.41, no.3, pp.269-276, 2017 (ESCI)

**VII. ELECTRON BEAM DIAGNOSTICS OF INJECTOR LINE IN TARLA FACILITY**

KAYA Ç., AKSOY A., AYDIN A., KARAKILIÇ V., Karşlı Ö., KAZANCI E., KOÇ İ. B., Tural M., YAVAŞ Ö.

BALKAN PHYSICS LETTERS, vol.24, pp.131-138, 2016 (Peer-Reviewed Journal)

**Refereed Congress / Symposium Publications in Proceedings**

- I. **Progress of microTCA.4 based LLRF system of Tarla**  
Gumus C., Hierholzer M., Schlarb H., Schmidt C., Elcim O., AKSOY A., AYDIN A., KAYA Ç.  
29th International Linear Accelerator Conference, LINAC 2018, Beijing, China, 16 - 21 September 2018, pp.220-222
- II. **An IOT based Mobile Radar System**  
Aydoğan E., BOSTANCI G. E., GÜZEL M. S., AYDIN A.  
International Conference on Advanced Technologies, Computer Engineering and Science (ICATCES 2019), 26 - 28 April 2019
- III. **Big Data Security Problem Based on Hadoop Framework**  
SAMET R., AYDIN A., Toy F.  
4th International Conference on Computer Science and Engineering (UBMK), Samsun, Turkey, 11 - 15 September 2019, pp.525-530
- IV. **Industrial Control for Big Physics**  
AYDIN A., KAZANCI E., BOZDOĞAN M., AKSOY A.  
International Conference on Theoretical and Applied Computer Science and Engineering, Ankara, Turkey, 10 - 11 November 2017, pp.7
- V. **TARLA (Turkish Accelerator and Radiation Laboratory in Ankara) Control System Architecture**  
KAZANCI E., AYDIN A., BOZDOĞAN M., POLAT E., AKSOY A.  
International Conference on Theoretical and Applied Computer Science and Engineering, Ankara, Turkey, 10 - 11 November 2017, pp.15
- VI. **EPICS Applications for TARLA**  
AYDIN A., BOZDOĞAN M., KAZANCI E., POLAT E., AKSOY A.  
International Conference on Theoretical and Applied Computer Science and Engineering, Ankara, Turkey, 10 - 11 November 2017, pp.7
- VII. **TARLA: THE FIRST FACILITY OF TURKISH ACCELERATOR CENTER (TAC)**  
AKSOY A., AYDIN A., KAYA Ç., YAVAŞ Ö., KETENOĞLU B.  
International Particle Accelerator Conference, IPAC2017, Copenhagen, Denmark, 14 - 19 May 2017, pp.2776-2778
- VIII. **CONTROL AND NETWORK SYSTEMS OF TARLA FACILITY**  
AYDIN A., AKSOY A., BAŞARAN A., GÜZOĞLU E., KAYA Ç., POLAT E., YAVAŞ Ö.  
6th Internationally Participated Congress on Particle Accelerators and Applications, Muğla, Turkey, 29 - 30 August 2016
- IX. **Design, production and tests of button type BPM for tac-tarla IR FEL facility**  
Gundogan M., YAVAŞ Ö., AYDIN A., KASAP E., KAYA Ç.  
5th International Beam Instrumentation Conference, IBIC 2016, Barcelona, Spain, 11 - 15 September 2016, pp.27-30
- X. **Simulation Studies On Beam Diagnostic For TAC - TARLA Facility**  
AYDIN A., KAYA Ç., AKSOY A., KASAP E.  
9th INTERNATIONAL PHYSICS CONFERENCE OF THE BALKAN PHYSICAL UNION - BPU9, Turkey, 24 - 27 August 2015
- XI. **Beam diagnostics of E-gun test stand at TARLA**  
KAYA Ç., AKSOY A., Karşlı O., KOÇ B., Kazancı E., Polat C., Karakilic V., KUDAY S., AYDIN A., YILDIZ M., et al.

5th International Particle Accelerator Conference, IPAC 2014, Dresden, Germany, 15 - 20 June 2014, pp.704-706

**XII. CURRENT STATUS OF TARLA CONTROL SYSTEM**

KAZANCI E., AKSOY A., AYDIN A., KAYA Ç., YAVAŞ Ö., ÖZKORUCUKLU S.

International Particle Accelerator Conference, IPAC2014, Dresden, Germany, 15 - 20 June 2014, pp.3192-3194

**XIII. BEAM DIAGNOSTICS OF E-GUN STAND AT TARLA**

Kaya Ç., Aksoy A., Karşlı Ö., Koç İ. B., Kazancı E., Aydın A., Özkorucuklu S.

International Particle Accelerator Conference, IPAC2014, Dresden, Germany, 15 - 20 June 2014, pp.704-706

**XIV. Beam Diagnostics E-GUN Test Stand at TARLA**

KAYA Ç., AKSOY A., AYDIN A., Karakılıç V., Karşlı Ö., Kazancı E., KOÇ İ. B., KUDAY S., Polat E., Şara İ., et al.

IPAC2014: 5th International Particle Accelerator Conference, Dresden, Germany, 15 - 20 June 2014

## Scientific Refereeing

Communications Faculty of Sciences University of Ankara Series A2-A3: Physical Sciences and Engineering, National Scientific Refreed Journal, November 2022

APPLIED SOFT COMPUTING JOURNAL, SCI Journal, July 2022

APPLIED SOFT COMPUTING JOURNAL, SCI Journal, February 2022

APPLIED SOFT COMPUTING JOURNAL, SCI Journal, February 2022

APPLIED SOFT COMPUTING JOURNAL, SCI Journal, August 2021

APPLIED SOFT COMPUTING JOURNAL, SCI Journal, August 2021

APPLIED SOFT COMPUTING JOURNAL, SCI Journal, April 2021

APPLIED SOFT COMPUTING JOURNAL, National Scientific Refreed Journal, April 2021

APPLIED SOFT COMPUTING JOURNAL, SCI Journal, February 2021

APPLIED SOFT COMPUTING JOURNAL, SCI Journal, December 2020

APPLIED SOFT COMPUTING JOURNAL, SCI Journal, December 2020

## Metrics

Publication: 31

Citation (WoS): 25

Citation (Scopus): 33

H-Index (WoS): 3

H-Index (Scopus): 3

## Scholarships

Pilot Tone Electron Beam Position Monitor (BPM): Algorithms and Implementation of the Pilot Tone Calibration, TUBITAK, 2019 - 2020

TARLA LLRF System, University, 2018 - 2018