

## Lect. PhD FATİH MEHMET AVCU

### Personal Information

**Email:** fatih.avcu@inonu.edu.tr

**Web:** <https://avesis.inonu.edu.tr/fatih.avcu>

### International Researcher IDs

ScholarID: h8BGncsAAAAJ

ORCID: 0000-0002-1973-7745

Publons / Web Of Science ResearcherID: ABG-8390-2020

ScopusID: 8964614300

Yoksis Researcher ID: 120289

### Education Information

Post Doctorate, University of Virginia, Chemistry, United States Of America 2015 - 2016

Doctorate, Inonu University, Fen Bilimleri Enstitüsü, Chemistry, Turkey 2008 - 2013

Postgraduate, Firat University, Institute of Science , Chemistry, Turkey 2003 - 2005

### Foreign Languages

English, B2 Upper Intermediate

### Dissertations

Doctorate, Resolution and Interpreting of Spectroscopic Signals of Complex Mixtures with The Parallel Genetic Algorithms, Inonu University, Fen Bilimleri Enstitüsü, 2012

Postgraduate, Magnetic interactions in supra molecular nickel systems , Firat University, Institute Of Science, 2005

### Research Areas

Parallel Algorithms, Analytical Chemistry, Chemometry, Spectroscopical Methods

### Academic Titles / Tasks

Lecturer PhD, Inonu University, Güzel Sanatlar Ve Tasarım Fakültesi, Müzik, 2007 - Continues

Instructor, Inonu University, Enformatik Bölümü, Enformatik Bölümü, 2001 - 2007

### Academic and Administrative Experience

Head of Department, Inonu University, 2017 - 2019

## Courses

Makine Öğrenmesi, Undergraduate, 2023-2024  
Arduino ile Programlama, Undergraduate, 2023-2024  
Tez Çalışması, Undergraduate Double Major, 2023-2024  
Mesleki Yabancı Dil, Undergraduate, 2023-2024  
Uzmanlık Alanı, Undergraduate Double Major, 2023-2024  
Temel Bilgi Teknolojileri-I, Undergraduate, 2019-2020  
Temel Bilgi Teknolojisi 1-2, Undergraduate, 2019-2020  
Robotik ve Programlama, Undergraduate, 2019-2020  
Programlama, Undergraduate, 2019-2020  
Temel Bilgi Teknolojileri-I, Undergraduate, 2019-2020  
Robotik ve Programlama, Undergraduate, 2018-2019  
Programlama, Undergraduate, 2018-2019  
Mesleki Yabancı Dil 1-2, Undergraduate, 2018-2019  
Elektronik Bilgisi, Undergraduate, 2018-2019  
Temel Bilgi Teknolojisi 1-2, Undergraduate, 2018-2019  
ALGORITMA GELİSTİRME VE BILGISAYAR PROGRAMLAMA, Undergraduate Double Major, 2018-2019  
Temel Bilgi Teknolojisi 1-2, Undergraduate, 2017-2018  
ALGORITMA GELİSTİRME VE BILGISAYAR PROGRAMLAMA, Undergraduate Double Major, 2017-2018  
Robotik ve Programlama, Undergraduate, 2017-2018  
Elektronik Bilgisi, Undergraduate, 2017-2018  
Mesleki Yabancı Dil 1-2, Undergraduate, 2017-2018  
Temel Bilgi Teknolojisi 1-2, Undergraduate, 2016-2017  
Elektronik Bilgisi, Undergraduate, 2016-2017  
Elektronik Bilgisi, Undergraduate, 2015-2016  
Temel Bilgi Teknolojisi 1-2, Undergraduate, 2015-2016  
Temel Bilgi Teknolojisi 1-2, Undergraduate, 2014-2015  
Elektronik Bilgisi, Undergraduate, 2014-2015  
Temel Bilgi Teknolojisi 1-2, Undergraduate, 2013-2014  
Temel Bilgi Teknolojisi 1-2, Undergraduate, 2012-2013  
Temel Bilgi Teknolojisi 1-2, Undergraduate, 2011-2012  
Temel Bilgi Teknolojisi 1-2, Undergraduate, 2010-2011  
Programlama, Undergraduate, 2009-2010  
Temel Bilgi Teknolojisi 1-2, Undergraduate, 2009-2010  
Programlama, Undergraduate, 2008-2009  
Temel Bilgi Teknolojisi 1-2, Undergraduate, 2008-2009  
Programlama, Undergraduate, 2007-2008  
Temel Bilgi Teknolojisi 1-2, Undergraduate, 2007-2008  
Temel Bilgi Teknolojisi 1-2, Undergraduate, 2006-2007  
Programlama, Undergraduate, 2006-2007  
Temel Bilgi Teknolojisi 1-2, Undergraduate, 2005-2006  
Programlama, Undergraduate, 2005-2006  
Temel Bilgi Teknolojisi 1-2, Undergraduate, 2004-2005  
Temel Bilgi Teknolojisi 1-2, Undergraduate, 2003-2004  
Temel Bilgi Teknolojisi 1-2, Undergraduate, 2002-2003  
Temel Bilgi Teknolojisi 1-2, Undergraduate, 2001-2002

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

- I. **Classification of some chemical drugs by genetic algorithm and deep neural network hybrid method**  
Karakaplan M., Avcu F. M.  
CONCURRENCY AND COMPUTATION-PRACTICE & EXPERIENCE, vol.33, no.13, 2021 (SCI-Expanded)
- II. **Deconvolution of Gaussian peaks with mixed real and discrete-integer optimization based on evolutionary computing**  
KARAKAPLAN M., AVCU F. M.  
JOURNAL OF CHEMOMETRICS, vol.34, no.6, 2020 (SCI-Expanded)
- III. **A parallel and non-parallel genetic algorithm for deconvolution of NMR spectra peaks**  
Karakaplan M., AVCU F. M.  
CHEMOMETRICS AND INTELLIGENT LABORATORY SYSTEMS, vol.125, pp.147-152, 2013 (SCI-Expanded)
- IV. **Sizeable amount of antiferromagnetic exchange interactions in newly reported dimeric cobalt (II) complex of the antiprine Schiff base of 3-formylsalicylic acid**  
AVCU F. M., AYTEKIN O., KARAKAPLAN M., BAYRI A.  
JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS, vol.10, no.3, pp.589-591, 2008 (SCI-Expanded)
- V. **Surprising magnetic behavior of cobalt(II) ion in recently prepared macrocycle complexes. Distortion versus intermolecular antiferromagnetic exchange interactions**  
Bayri A., Bahadır A. R., Avcu F. M., AYTEKIN O.  
TRANSITION METAL CHEMISTRY, vol.30, no.8, pp.987-991, 2005 (SCI-Expanded)

## Articles Published in Other Journals

- I. **AZ VERİ SETLİ ÇALIŞMALARINDA DERİN ÖĞRENME VE DİĞER SINIFLANDIRMA ALGORİTMALARININ KARŞILAŞTIRILMASI: AGONİST VE ANTAGONİST LİGAND ÖRNEĞİ**  
AVCU F. M.  
İnönü Üniversitesi Sağlık Hizmetleri Meslek Yüksek Okulu Dergisi, vol.10, no.1, pp.356-371, 2022 (Peer-Reviewed Journal)
- II. **A Probabilistic Atomic Radius Definition: Application to Ground State Hydrogen-Like Atoms**  
AVCU F. M., ALAGÖZ S.  
Adıyaman University Journal of Science, 2020 (Peer-Reviewed Journal)
- III. **Finding exact number of peaks in broadband UV-vis spectra using curve fitting method based on evolutionary computing**  
AVCU F. M., KARAKAPLAN M.  
Journal of the Turkish Chemical Society, Section A: Chemistry, vol.7, no.1, pp.117-124, 2020 (Scopus)

## Books & Book Chapters

- I. **Makine Öğrenmesinin Analitik Kimyada Yeni Bir Paradigma Olarak Yükselişi: İnceleme ve Geleceğe Yönelik Perspektifler**  
Avcu F. M.  
in: Doğa ve Mühendislik Bilimlerinde Güncel Tartışmalar 8, Hikmet Y. ÇOĞUN, İshak PARLAR, Hasan ÜZMUŞ, Editor, Bilgin Kültür Sanat Yayınları, Ankara, pp.749-772, 2023

## Refereed Congress / Symposium Publications in Proceedings

- I. **Classification of Water Samples with Supervised Machine Learning**  
Avcu F. M.  
Uluslararası Dumlupınar Fen ve Matematik Kongresi - IDUSMAC 2022, Kütahya, Turkey, 5 - 07 September 2022, pp.217-218

- II. **Clustering Stinging Nettle Samples with Unsupervised Learning Methods & Testing the Method with Deep Learning**  
Avcu F. M., Karakaplan M., Mutlu B.  
Uluslararası Dumlupınar Fen ve Matematik Kongresi - IDUSMAC 2022, Kütahya, Turkey, 5 - 07 September 2022, pp.133-134
- III. **AN OPTIMIZED FRAMEWORK FOR CHEMICAL MEDICINE CLASSIFICATION USING DEEP LEARNING COUPLED WITH GENETIC ALGORITHM**  
KARAKAPLAN M., AVCU F. M.  
INTERNATIONAL MULTIDISCIPLINARY SYMPOSIUM ON DRUG RESEARCH & DEVELOPMENT, Malatya, Turkey, 1 - 03 June 2019, pp.311-312
- IV. **Hidden Genes Genetic Algorithms for Gaussian Functions**  
KARAKAPLAN M., AVCU F. M.  
Fourth International Conference on New Trends in Chemometrics and Applications, Aydın, Turkey, 1 May - 03 June 2019, pp.14-15
- V. **Ses Üretimi Açısından Keman Çalgısında Köprü Üzerinde Bir Transformasyon Çalışm**  
AKBUDAK H., ARAPGİRLİOĞLU H., AVCU F. M.  
INTERNATIONAL EUROPEAN CONFERENCE ON SCIENCE, ART&CULTURE(ECSAC), Antalya, Turkey, 19 - 22 April 2018, pp.204
- VI. **Chemometrical Evaluation of Complex Analytic Signals by Parallel Genetic Algorithm Microwave Spectra Examples**  
AVCU F. M., KARAKAPLAN M.  
Third International Conference on New Trends in Chemometrics and Applications, 25 - 28 May 2016
- VII. **Resolution of overlapping UV Vis absorption bands with parallel genetic algorithm**  
Avcu F. M., Karakaplan M.  
Second International Conference on New Trends in Chemometrics and Applications, Ankara, Turkey, 01 May 2013
- VIII. **Paralel Genetik Algoritma İle Çok Merkezli Fonksiyonların Optimizasyonu**  
Avcu F. M.  
3. Ulusal Yüksek Başarımlı Hesaplama Konferansı, Ankara, Turkey, 12 March 2012, pp.4-8

## Supported Projects

KARAKAPLAN M., AVCU F. M., Project Supported by Higher Education Institutions, Genetik Algoritma ile Spektral Verilerin Ayrıştırılması ve Sonuçların Nitel ve Nicel Olarak İncelenmesi, 2019 - 2021

KARABURUN DOĞAN D., AKBUDAK H., ADIGÜZEL A., ÜRÜN T., GİRAY M. Z., DAĞDEVİREN M., AVCU F. M., SAYAN Ş., ÇAKI C., AKGÜN E., et al., Project Supported by Higher Education Institutions, Antakya Süryani Ortodoks Kilisesi Dinsel Müzik Uygulamalarının Bölge Kültürüne Etkisi, 2018 - 2020

Avcu F. M., TUBITAK Project, Chemometric evaluation of microwave spectrum data with parallel genetic algorithm and developing methods for overlap peak analysis, 2015 - 2016

Avcu F. M., Project Supported by Higher Education Institutions, Doğal ve Yapay Malzeme Karışımlarından Biyo Chip Nano Mikro Kapiler Sistem Üretimi, 2012 - 2016

Avcu F. M., Project Supported by Higher Education Institutions, Bilgisayar Alt Yapısı Güncelleme, 2013 - 2013

Avcu F. M., Project Supported by Higher Education Institutions, Kompleks Karışımların Spektroskopik Sinyallerinin Paralel, 2010 - 2012

## Activities in Scientific Journals

İnönü Üniversitesi Sanat ve Tasarım Dergisi, Committee Member, 2018 - Continues

## **Memberships / Tasks in Scientific Organizations**

Turkish Chemical Society, Member, 2021 - Continues, Turkey

## **Scientific Refereeing**

Journal of the Turkish Chemical Society Section A: Chemistry, Other Indexed Journal, December 2022

Journal of the Turkish Chemical Society Section A: Chemistry, Other Indexed Journal, March 2022

Adiyaman University Journal of Science, Other Indexed Journal, October 2021

Turkish Computational and Theoretical Chemistry , Other Indexed Journal, September 2020

Turkish Computational and Theoretical Chemistry, Other Indexed Journal, June 2020

Journal of the Turkish Chemical Society Section A: Chemistry, Other Indexed Journal, April 2020

## **Metrics**

Publication: 19

Citation (WoS): 24

Citation (Scopus): 16

H-Index (WoS): 3

H-Index (Scopus): 2

## **Congress and Symposium Activities**

3rd International Conference on New Trends in Chemometrics and Applications, Attendee, Antalya, Turkey, 2015

2nd International Conference on New Trends in Chemometrics and Applications, Attendee, Ankara, Turkey, 2013

## **Scholarships**

2219, TUBITAK, 2015 - 2016

## **Non Academic Experience**

University of Virginia