

## Res. Asst. Cemali ALTUNTAŞ

### Personal Information

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### International Researcher IDs

ScholarID: v8QuuYEAAAAJ

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Publons / Web Of Science ResearcherID: GYQ-7856-2022

ScopusID: 57222185577

Yoksis Researcher ID: 296781

### Biography

He was born in 1994 in Ankara. He completed his primary, secondary and high school education in the same city. He received his undergraduate degree from Yildiz Technical University in 2017. In 2018, he started his graduate education at Hacettepe University, Institute of Science and Technology, Department of Geomatics Engineering. At the end of 2018, he was appointed as a Research Assistant to the Division of Surveying Technique in the Department of Geomatic Engineering at Yildiz Technical University. At the beginning of 2019, he moved as a student from Hacettepe University to Yildiz Technical University. In January 2021, he completed his master's thesis titled "Examination of the Global Navigation Satellite Systems Reflectometry Method with Signal to Noise Ratio Data". He still continues his work and doctorate education here.

He worked on GPS-PPP, VLBI and repeatability criteria during his time at Hacettepe University. Nowadays, the focus of his work is on GNSS Interferometric Reflectometry (GNSS-IR).

### Education Information

Doctorate, Yildiz Technical University, Faculty Of Civil Engineering, Geomatic Engineering, Turkey 2021 - Continues

Postgraduate, Yildiz Technical University, Graduate School Of Natural And Applied Sciences, Harita Mühendisliği / Geomatik, Turkey 2019 - 2021

Postgraduate, Hacettepe University, Fen Bilimleri Enstitüsü, Geomatik Mühendisliği, Turkey 2018 - 2019

Undergraduate, Yildiz Technical University, Faculty Of Civil Engineering, Geomatic Engineering, Turkey 2013 - 2017

### Foreign Languages

English, C1 Advanced

### Dissertations

Postgraduate, Examination of the Global Navigation Satellite Systems Reflectometry Method with Signal to Noise Ratio Data, Yildiz Technical University, Faculty of Civil Engineering, Geomatic Engineering, 2021

## Research Areas

Geotechnical Engineering, GPS-GNSS, Earth Observations (Remote Sensing), Measuring Technique, Engineering and Technology

## Academic Titles / Tasks

Research Assistant, Yildiz Technical University, Faculty Of Civil Engineering, Geomatic Engineering, 2018 - Continues

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

- I. **Source Geometry and Rupture Characteristics of the 20 February 2023 Mw 6.4 Hatay (Türkiye) Earthquake at Southwest Edge of the East Anatolian Fault**  
Yolsal Çevikbilen S., Taymaz T., Irmak T. S., Erman C., Kahraman M., Özkan B., Eken T., Öcalan T., Doğan A. H., Altuntaş C.  
GEOCHEMISTRY, GEOPHYSICS, GEOSYSTEMS, vol.25, no.10, pp.1-29, 2024 (SCI-Expanded)
- II. **Datum Alignment Between GNSS-IR Sea Level Estimations and Tide Gauges in Türkiye: A Vertical Local Tie Approach**  
Altuntaş C., Tunahöglü N., Öcalan T.  
MARINE GEODESY AN INTERNATIONAL JOURNAL OF OCEAN SURVEYS, MAPPING AND SENSING, vol.47, pp.1-19, 2024 (SCI-Expanded)
- III. **Implementing robust outlier detection to enhance estimation accuracy of GNSS-IR based seasonal snow depth retrievals**  
Altuntaş C., Erdoğan B., Tunahöglü N.  
INTERNATIONAL JOURNAL OF REMOTE SENSING, vol.45, no.11, pp.3648-3663, 2024 (SCI-Expanded)
- IV. **A systematic approach for identifying optimal azimuth and elevation angle masks in GNSS-IR: validation through a sea level experiment**  
Altuntaş C., Tunahöglü N.  
GPS SOLUTIONS, vol.27, pp.1-13, 2023 (SCI-Expanded)
- V. **Enhancing snow depth estimations through iterative satellite elevation range selection in GNSS-IR to account for terrain variation**  
Altuntaş C., Tunahöglü N.  
IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING, vol.61, pp.1-9, 2023 (SCI-Expanded)
- VI. **Machine learning-based snow depth retrieval using GNSS signal-to-noise ratio data**  
Altuntaş C., İban M. C., Şentürk E., Durdağ U. M., Tunahöglü N.  
GPS SOLUTIONS, vol.26, pp.1-12, 2022 (SCI-Expanded)
- VII. **An experimental test for detecting effective reflector height with GPS SNR data**  
Tunahöglü N., Altuntaş C.  
EARTH SCIENCES RESEARCH JOURNAL, vol.26, no.1, pp.13-22, 2022 (SCI-Expanded)
- VIII. **GIRAS: an open-source MATLAB-based software for GNSS-IR analysis**  
Altuntaş C., Tunahöglü N.  
Gps Solutions, vol.26, no.1, pp.1-8, 2022 (SCI-Expanded)
- IX. **Feasibility of retrieving effective reflector height using GNSS-IR from a single-frequency android smartphone SNR data**  
Altuntaş C., Tunahöglü N.  
Digital Signal Processing, pp.1-10, 2021 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Assessment of GNSS-IR performance using multi-GNSS and multi-frequency SNR data from smartphones**  
Altuntaş C., Tunaloğlu N.  
Jeodezi ve jeoinformasyon dergisi (Online), vol.12, no.1, pp.1-19, 2025 (Peer-Reviewed Journal)
- II. **Statistical Analysis of Covid-19 Outbreak with Benford's Law**  
Doğan A. H., Altuntaş C., Gül C., Tunaloğlu N., Erdoğan B.  
Yönetim ve Ekonomi Araştırmaları Dergisi, vol.21, no.2, pp.120-133, 2023 (Peer-Reviewed Journal)
- III. **Rapid Characterization of the February 2023 Kahramanmaraş, Türkiye, Earthquake Sequence**  
Goldberg D. E., Taymaz T., Reitman N. G., Hatem A. E., Yolsal Çevikbilen S., Barnhart W. D., Irmak T. S., Wald D. J., Öcalan T., Yeck W. L., et al.  
The Seismic Record, vol.3, no.2, pp.156-167, 2023 (Peer-Reviewed Journal)
- IV. **Sub- and super-shear ruptures during the 2023 Mw 7.8 and Mw 7.6 earthquake doublet in SE Türkiye**  
Melgar D., Taymaz T., Ganas A., Crowell B., Öcalan T., Kahraman M., Tsironi V., Yolsal Çevikbilen S., Valkaniotis S., Irmak T. S., et al.  
Seismica, vol.2, no.3, pp.1-10, 2023 (Peer-Reviewed Journal)
- V. **An investigation on the use of GNSS-IR method for determining sea level changes and its accuracy analysis**  
Altuntaş C., Tunaloğlu N.  
GEOMATİK, vol.7, no.3, pp.187-196, 2022 (ESCI)
- VI. **Yalın Bir Sanat Eleştirisi: Yapı(t)söküm**  
Altuntaş C.  
Telakki Sosyal Bilimler Dergisi, vol.1, no.1, pp.61-62, 2022 (Peer-Reviewed Journal)
- VII. **Retrieving the SNR metrics with different antenna configurations for GNSS-IR**  
Altuntaş C., Tunaloğlu N.  
Turkish Journal of Engineering, vol.6, no.1, pp.87-94, 2022 (Peer-Reviewed Journal)
- VIII. **ESTIMATION PERFORMANCE OF SOIL MOISTURE WITH GPS-IR METHOD**  
Altuntaş C., Tunaloğlu N.  
Sigma Journal of Engineering and Natural Sciences, vol.38, no.4, pp.2217-2230, 2020 (ESCI)

## **Refereed Congress / Symposium Publications in Proceedings**

- I. **Investigating the potential of fire and smoke detection in video footage using YOLOv11 for early warning purposes**  
Altuntaş C., Arıcan D., Yılmaz O.  
XXIII. Türkiye Ulusal Jeodezi Komisyonu (TUJK) Sempozyumu 2024, Çanakkale, Turkey, 6 - 09 November 2024, pp.1-2
- II. **Estimation of long-period, diurnal, and semidiurnal tidal constituents using GNSS-IR**  
Altuntaş C., Tunaloğlu N.  
XXIII. Türkiye Ulusal Jeodezi Komisyonu (TUJK) Sempozyumu 2024, Çanakkale, Turkey, 6 - 09 November 2024, pp.1-2
- III. **Investigation of the accuracy of the products obtained by unmanned aerial vehicle (UAV) photogrammetry using multi-GNSS PPP solutions**  
Türk T., Bahadır B., Öcalan T., Demirel Y., Altuntaş C.  
IX. Uzaktan Algılama ve Coğrafi Bilgi Sistemleri Sempozyumu, Aksaray, Turkey, 17 - 19 October 2024, pp.1-4
- IV. **Determination of sea level changes based on GNSS-IR on Türkiye coastlines**  
Altuntaş C., Tunaloğlu N., Öcalan T., Keskin İ. H., Özel Ö., Sezen E., Kurt A. İ.  
Türkiye Ulusal Jeodezi Komisyonu (TUJK) XXII. Sempozyumu 2023, Trabzon, Turkey, 29 November - 01 December 2023, pp.1-2
- V. **Assessment of the accuracy of point clouds obtained with a smartphone LiDAR sensor**

Altuntaş C., Arıcan D., Yılmaz O.

Türkiye Ulusal Jeodezi Komisyonu (TUJK) XXII. Sempozyumu 2023, Trabzon, Turkey, 29 November - 01 December 2023, pp.1-2

- VI. **Analysis of GNSS-IR-based sea level estimations using epoch-based and daily average approaches**  
Altuntaş C., Tunahoğlu Öcalan N.  
19. Türkiye Harita Bilimsel ve Teknik Kurultayı, Ankara, Turkey, 4 - 06 October 2023, pp.1-2
- VII. **3D Modelling of Historical Buildings via Social Media Data**  
Arıcan D., Tunahoğlu N., Doğan A. H., Altuntaş C., Erdoğan B.  
Türkiye Ulusal Fotogrametri ve Uzaktan Algılama Birliği (TUFUAB) XII. Teknik Sempozyumu, Sivas, Turkey, 24 - 26 May 2023, pp.1
- VIII. **A Research on 3D Modeling Facilities based on Instant-NeRF**  
Polat A., Tunahoğlu N., Altuntaş C., Doğan A. H., Öcalan T.  
Türkiye Ulusal Fotogrametri ve Uzaktan Algılama Birliği (TUFUAB) XII. Teknik Sempozyumu, Sivas, Turkey, 24 - 26 May 2023, pp.1
- IX. **An investigation on the analysis of multi-frequency multi-GNSS data with GNSS-IR method**  
Altuntaş C., Tunahoğlu N.  
Türkiye Ulusal Jeodezi Komisyonu (TUJK) 2022 Yılı Bilimsel Toplantısı, Kocaeli, Turkey, 2 - 04 November 2022, pp.1-2
- X. **Investigation of Long-term Snow Depth Retrieval Performance of GNSS-IR Method**  
Altuntaş C., Tunahoğlu N., Erdoğan B.  
Türkiye Ulusal Jeodezi Komisyonu (TUJK) 2021 Yılı Bilimsel Toplantısı, Ankara, Turkey, 25 - 27 November 2021, pp.1
- XI. **Türkiye Kıyılarında Deniz Seviyesi Değişimlerinin GNSS-IR Yöntemi ile Belirlenebilirliğinin Araştırılması: Tekirdağ (TEKR) Sabit GNSS İstasyonu Örneği**  
Altuntaş C., Tunahoğlu N.  
18. Türkiye Harita Bilimsel ve Teknik Kurultayı, Ankara, Turkey, 26 - 29 May 2021, pp.1
- XII. **An experimental study on the effect of antenna orientation on GNSS-IR**  
Altuntaş C., Tunahoğlu N.  
Intercontinental Geoinformation Days, 25 - 26 November 2020, pp.244-247
- XIII. **IVS-CONT17 Süresince VLBI ve GNSS (PPP) Tekniklerinden Elde Edilen Günlük Koordinat ve Baz Uzunluğu Tekrarlanabilirlikleri**  
Altuntaş C., Öcal M. F., Teke K.  
17. Türkiye Harita Bilimsel ve Teknik Kurultayı, Ankara, Turkey, 25 April 2019, pp.1
- XIV. **GPS Sinyal Gürültü Oranı (SNR) Kullanılarak Genlik Değişimlerinin İncelenmesi**  
Doğan A. H., Tunahoğlu N., Durdağ U. M., Erdoğan B., Öcalan T., Altuntaş C.  
17. Türkiye Harita Bilimsel ve Teknik Kurultayı, Ankara, Turkey, 25 April 2019, pp.1

## Supported Projects

Tunahoğlu Öcalan N., Erdoğan B., Öcalan T., Altuntaş C., Gül C., Arda T., Arıcan D., Project Supported by Higher Education Institutions, Kültürel Miras Envanteri için Kitle Kaynaklı Sosyal Medya Veri Entegrasyonu ile 3 Boyutlu Modelleme, 2023 - 2024

Türk T., Öcalan T., Bahadır B., TUBITAK Project, İnsansız Hava Aracı (İHA) Fotogrametrisi ile Elde Edilen Ürünlerin Doğruluğunun Çoklu-GNSS PPP Çözümleri Kullanılarak Araştırılması, 2022 - 2024

Tunahoğlu N., Öcalan T., Altuntaş C., Özel Ö., Keskin İ. H., Project Supported by Other Official Institutions, Türkiye Kıyılarında Deniz Seviyesi Değişiminin SNR Verileri ile GNSS-IR Yöntemine Dayalı Olarak İzlenmesi ve Doğruluk Araştırması, 2021 - 2023

Tunahoğlu N., Altuntaş C., TUBITAK Project, Çift Frekanslı Çoklu-GNSS Çipine Sahip Android Tabanlı Akıllı Telefonlar ile SNR Metriklerinin Kestiriminin Araştırılması, 2021 - 2022

Tunahoğlu N., Altuntaş C., Erdoğan B., Project Supported by Higher Education Institutions, Mevsimsel Kar Kalınlığı

Değişimlerinin GNSS-IR Yöntemi ile İzlenmesi ve Doğruluk Analizi, 2021 - 2022

## Activities in Scientific Journals

Jeodezi ve jeoinformasyon dergisi (Online), Technical Redactor, 2020 - Continues

## Memberships / Tasks in Scientific Organizations

International Association of Geodesy, Member, 2024 - Continues, Turkey

## Scientific Refereeing

MEASUREMENT: JOURNAL OF THE INTERNATIONAL MEASUREMENT CONFEDERATION, Journal Indexed in SCI-E, December 2024

IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING, Journal Indexed in SCI-E, September 2024

IEEE JOURNAL OF SELECTED TOPICS IN APPLIED EARTH OBSERVATIONS AND REMOTE SENSING, Journal Indexed in SCI-E, July 2024

ADVANCES IN SPACE RESEARCH, SCI Journal, April 2024

ACTA GEODAETICA ET GEOPHYSICA, Journal Indexed in SCI-E, February 2024

SN APPLIED SCIENCES, Journal Indexed in ESCI, December 2023

JOURNAL OF ENGINEERING AND APPLIED SCIENCE, National Scientific Refreed Journal, June 2023

SPATIAL AND SPATIO-TEMPORAL EPIDEMIOLOGY, Journal Indexed in ESCI, May 2023

IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING, Journal Indexed in SCI-E, April 2023

SCIENTIFIC REPORTS, Journal Indexed in SCI-E, March 2023

## Metrics

Publication: 31

## Awards

Altuntaş C., 16. TÜRKİYE HARİTA BİLİMSEL VE TEKNİK KURULTAYI HARİTA/GEOMATİK MÜHENDİSLİĞİ BÖLÜMLERİ LİSANS ÖĞRENCİLERİ POSTER YARIŞMASI BİRİNCİLİĞİ, Harita Ve Kadastro Mühendisleri Odası, May 2017