

ELİF ÇİFTÇİ

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I have extensive experience in three key areas: geomagnetism, electromagnetic methods, and disaster preparedness. As a researcher at the Geomagnetic Laboratory of Kandilli Observatory and Earthquake Research Institute (KOERI), I am deeply curious about the Earth's magnetic field. This complex field requires continuous monitoring across various locations on Earth and in space to create accurate maps. Understanding its physics provides valuable insights into our planet. At the Geomagnetic Laboratory, we record both the temporal variations of the Earth's magnetic field and the regional variations within Türkiye.

In addition to geomagnetism, I work with electromagnetic methods, particularly magnetotelluric studies, which help us explore the subsurface electrical properties of the Earth. These studies are crucial for understanding geological structures and processes.

I am also actively involved in disaster preparedness. As part of the Disaster Preparedness Training Project, I continue to serve as an educator, working to raise public awareness about disaster risks. My efforts aim to build a more resilient society by enhancing community readiness for natural disasters.

EXPERIENCE

1998 – PRE.

GEOPHYSICAL ENGINEER, BOĞAZIÇI UNIVERSITY

KANDILLI OBSERVATORY AND EARTHQUAKE RESEARCH INSTITUTE, DEPARTMENT OF
GEOPHYSICS, GEOMAGNETISM LABORATORY, ISTANBUL, TÜRKİYE

1995

INTERN, GENERAL DIRECTORATE OF MINERAL RESEARCH AND EXPLORATION (MTA), ANKARA,
TÜRKİYE

EDUCATION

2024 – PRE.

Student, EMERGENCY AND DISASTER MANAGEMENT, ANADOLU UNIVERSITY, TÜRKİYE

2020 – 2022

Associate Degree, GEOGRAPHIC INFORMATION SYSTEMS, ANADOLU UNIVERSITY, TÜRKİYE

2007 – PRE.

Ph.D., KYOTO UNIVERSITY, DISASTER PREVENTION RESEARCH INSTITUTE (DPRI), KYOTO, JAPAN

1999 – 2002

M.Sc., BOĞAZIÇI UNIVERSITY, KANDILLI OBSERVATORY AND EARTHQUAKE RESEARCH INSTITUTE,
DEPARTMENT OF GEOPHYSICS, ISTANBUL

1997 – 1998

English Preparatory Program, BOĞAZIÇI UNIVERSITY, SCHOOL OF FOREIGN LANGUAGES,
ISTANBUL

1993 – 1997

B.Sc., ISTANBUL UNIVERSITY, FACULTY OF ENGINEERING, DEPARTMENT OF GEOPHYSICAL
ENGINEERING, ISTANBUL

1987 – 1993

ÇAMLICA GIRLS HIGH SCHOOL

1982 – 1987

ACIBADEM PRIMARY SCHOOL

THESES

MASTER'S THESIS:

“Deep Resistivity Structure Revealed by Wideband Magnetotellurics of Yalova-Gemlik Region, Turkey”
Boğaziçi University, Kandilli Observatory and Earthquake Research Institute, Department of Geophysics,
2002

Advisor: Prof. Dr. Ahmet M. Işıkara

UNDERGRADUATE THESIS:

“Computer Evaluation of Zero-Offset, Single Channel High-Resolution, Analog Marine Seismic Modelling
Software, Version: 1.0”

Istanbul University, Faculty of Engineering, Department of Geophysical Engineering, 1997

Advisor: Prof. Dr. Kurultay Öztürk

PROJECTS

2023 – PRESENT

Researcher, “Detection of ULF Magnetic Anomalies as Earthquake Precursors Using a New Design
Search Coil Magnetometer,” TÜBİTAK 1001 Scientific and Technological Research Projects Support
Program - Special Calls

2020 – 2021

Researcher, “Investigation of Ionospheric Conductivity Variations Using Geomagnetic Data in Turkey,”
Boğaziçi University Research Fund Project (BU BAP)

2006

Researcher, “Geomagnetic Field Measurements (with a 3-component fluxgate magnetometer) During the Total Eclipse at Manavgat, Antalya, Turkey,” Boğaziçi University, Kandilli Observatory and Earthquake Research Institute (BU-KRDAE)

2005 – 2007

Researcher, “Electric and Magnetic Studies of Seismogenic Zones” (A Wideband MT study for comparing the electrical resistivity structure at the eastern and western parts of the 12 November 1999 Duzce earthquake epicenter), TÜBİTAK Project (BU-KRDAE & NAS of Ukraine)

2005

Researcher, “Istanbul Risk and Disaster Management,” Istanbul Metropolitan Municipality, Department of Settlements and Urban Transformation

2001 – PRESENT

ABCD Expert Instructor, Disaster Preparedness Laboratory

2001 – PRESENT

YOTA Expert Instructor, Disaster Preparedness Laboratory

2001 – 2008

Researcher, “A Long-Period MT Study Focusing on Tectonics of Eastern Aegean Region in Turkey,” Turkish-Japanese Joint Project (BU-KRDAE & TIT & KU)

2000 – 2001

Researcher, “Paleomagnetism of the Eastern Pontides and the Geodynamic Evolution of the Region,” Istanbul University Research Fund Project

1999 – 2008

Researcher, “Multidisciplinary Research on Fault Activity in the Western Part of North Anatolian Fault Zone,” Turkish-Japanese Joint Project (BU-KRDAE & TIT & KU)

ADMINISTRATIVE EXPERIENCE

2020 – 2022

Alternate Board Member, 16th Term Board of Directors, Chamber of Geophysical Engineers (JFMO), Istanbul Branch, TMMOB

2003 – 2019

Workplace Representative, Boğaziçi University Kandilli Observatory and Earthquake Research Institute, Chamber of Geophysical Engineers (TMMOB)

1998 – 2000

Secretary, 8th Term Board of Directors, Chamber of Geophysical Engineers (JFMO), Istanbul Branch, TMMOB

MEMBERSHIPS

1997 – PRESENT

Member, Chamber of Geophysical Engineers (TMMOB)

1995 – 1997

Student Member, Chamber of Geophysical Engineers, Istanbul Branch (TMMOB)

1998 – 1999

The British Council, Library and Information Service, Istanbul

COMPUTER SKILLS

- ✚ Microsoft Office Programs, Linux Operating System
 - ✚ Surfer, Grapher, GMT Mapping Tool, Matlab, CorelDraw, ArcGIS, Geotools, Winglink, SSMT2000/Phoenix System
 - ✚ Developed “Zero-Offset, Single Channel High-Resolution Marine Seismic Modeling Software, Version: 1.0”
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BOOK & BOOK CHAPTERS

- Geomagnetic Observations in Turkey, C. Çelik, M.K. Tunçer, **E. Tolak**, M. Zobu, O. Yazıcı-Çakın, B. Çağlayan, Y. Güngörmüş, *Geomagnetics for Aeronautical Safety*, Rasson, J.L.; Delipetrov, T., Editor, Springer Publishing Co, Hollanda, ss.127-135, 2006.
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PUBLICATIONS

- Ö. Hacıoğlu, A.T. Başokur, **E. Tolak Çiftçi**, “Crustal structure of a young collision zone: The Arabia–Eurasia collision in northeastern Turkey investigated by magnetotelluric data”, *Earth, Planets and Space*, 70, p. 1, 2018.
- Y. Honkura, N. Oshiman, M. Matsushima, Ş. Barış, M.K. Tunçer, S.B. Tank, C. Çelik, **E. Tolak Çiftçi**, “Rapid changes in the electrical state of the 1999 Izmit earthquake rupture zone”, *Nature*, 4(1), 1-10, 2013.
- G. Karcıoğlu, S.B. Tank, A. Gürer, T. Kaya, M.K. Tunçer, “Upper crustal electrical resistivity structures in the vicinity of the Catalca Fault, Istanbul, Turkey by magnetotelluric data”, *Studia Geophysica Et Geodaetica*, vol.57, no.2, 292-308, 2013.
- C. Çelik, M.K. Tunçer, **E. Tolak Çiftçi**, M. Zobu, N. Oshiman, S.B. Tank, “Solar and lunar geomagnetic variations in the northwestern part of Turkey”, *Geophysical Journal International*, 189(1), 391-399, 2012.

- T. Kaya, S.B. Tank, M.K. Tunçer, I. Rokoityansky, **E. Tolak**, T. Savchenko, “Asperity along the North Anatolian Fault imaged by magnetotellurics at Düzce, Turkey”, *Earth, Planets and Space*, Vol. 61(No. 7), pp. 871-884, 2009.
 - C. Çelik, M.K. Tunçer, **E. Tolak**, M. Zobu, O. Yazıcı Çakın, B. Çağlayan, Y. Güngörmüş, “Geomagnetic Observations In Turkey”, *Geomagnetics for Aeronautical Safety*, pp. 127-135, 2006.
 - S.B. Tank, Y. Honkura, Y. Ogawa, M. Matsushima, N. Oshiman, M.K. Tunçer, C. Çelik, **E. Tolak**, A.M. Işıkara, “Magnetotelluric Imaging of the Fault Rupture Area of the 1999 Izmit (Turkey) Earthquake”, *Physics of the Earth and Planetary Interiors*, 150, pp. 213–225, 2005.
 - S.B. Tank, Y. Honkura, Y. Ogawa, N. Oshiman, M.K. Tunçer, C. Çelik, **E. Tolak**, “Resistivity Structure in the Western Part of the Fault Rupture Zone Associated with the 1999 Izmit Earthquake and its Seismogenic Implication”, *Earth, Planets and Space*, 55, pp. 437-442, 2003.
 - Matsushima, M., Y. Honkura, N. Oshiman, S. Barış, M.K. Tunçer, S.B. Tank, C. Çelik, F. Takahashi, M. Nakanishi, R. Yoshimura, R. Pektaş, T. Komut, **E. Tolak**, A. Ito, Y. Iio, and A.M. Işıkara, “Seismo-Electromagnetic Effect Associated with the Izmit Earthquake and its Aftershock”, *Bulletin of the Seismological Society of America*, 92(1), pp. 350-360, 2002.
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PRESENTATIONS & POSTERS

2024

- **E. Çiftçi**, H. Yeşilyaprak, C. Çelik, Ö. Hacıoğlu, B. Kotan; “Study of the November 2023 Magnetic Storm Using Solar Observations and Geomagnetic Observations at Kandilli Observatory,” 23rd National Astronomy Congress and 12th National Astronomy Student Congress, Istanbul, Turkey, September 2-6, 2024. (Poster)
- **E. Çiftçi**, Ö. Hacıoğlu, C. Çelik, “Geomagnetic Observations at Kandilli Observatory and the November 2023 Magnetic Storm,” 1st International Scientific Research and Innovation Congress, Istanbul, Turkey, July 19-20, 2024.
- **E. Çiftçi**, C. Çelik, “Geomagnetic Studies in Turkey: A 97-Year Review,” 9th Yerelektrik Workshop, Afyonkarahisar, Turkey, May 8-10, 2024.

2023 - 2000

- M. Matsushima, Y. Honkura, S. B. Tank, M. K. Tunçer, Ş. Barış, C. Çelik, **E. Tolak Çiftçi**, N. Oshiman, “Periodic variations in crustal resistivity and their relation to the 1999 İzmit earthquake”. Japan Geoscience Union Meeting 2023 (pp.14). Chiba, Japan
- Ö. Cengiz, A.T. Başokur, **E. Tolak Çiftçi**, “Magnetotelluric Imaging of Crustal Fluids and Seismicity at the East Anatolian Collision Zone, Northeastern Turkey,” 23rd EM Induction Workshop, Chiang Mai, Thailand, August 14-20, 2016. (Poster)
- Ö. Cengiz, A.T. Başokur, **E. Tolak Çiftçi**, “Electrical Resistivity Structure of the East Anatolian Collision Zone (Northeastern Anatolia),” 6th Yerelektrik Workshop, Kocaeli, Turkey, May 23-25, 2016. (Poster)

- Ö. Cengiz, A.T. Başokur, **E. Tolak Çiftçi**, “The Electrical Resistivity Structure of the East Anatolian Collision Zone, Northeastern Anatolia,” European Geosciences Union General Assembly 2016, Vienna, Austria, April 17-22, 2016.
- M.K. Tunçer, Ö. Cengiz, B. Tank, **E. Tolak Çiftçi**, T. Kaya, Y. Ogawa, et al., “Electrical Resistivity Imaging at Western Turkey by Wideband Magnetotelluric Method,” Japan Geoscience Union Meeting, Yokohama, Japan, April 28 - May 2, 2014. (Poster)
- C. Çelik, **E. Tolak Çiftçi**, M. Zobu, H. Özener, S.B. Tank, A. Kızmaz, N. Sarıkaya, “Sunspot-Dependence of the Geomagnetic Daily Variation in Turkey,” 7th Congress of the Balkan Geophysical Society, October 2013. DOI:10.3997/2214-4609.20131670.
- Ö. Cengiz, S.B. Tank, **E. Tolak Çiftçi**, T. Kaya, Y. Ogawa, Y. Honkura, et al., “Imaging Fluid-Rich Zones by Magnetotelluric Method at South Marmara Region, Turkey,” European Geosciences Union General Assembly, Vienna, Austria, April 7-12, 2013. (Poster)
- Ö. Cengiz, S.B. Tank, **E. Tolak Çiftçi**, M.K. Tunçer, “Two-Dimensional Resistivity Structure of the South Marmara Region in Turkey Using Magnetotelluric Method,” 4th Yerelektrik Workshop, Izmir, Turkey, May 21-23, 2012. (Poster)
- S.B. Tank, Y. Ogawa, Y. Honkura, M.K. Tunçer, N. Oshiman, M. Matsushima, T. Kaya, **E. Tolak**, “Role of Crustal Conductors in Fault Dynamics: A Case Study of Armutlu Peninsula, Turkey,” Conductivity Anomaly Workshop, Tokyo, Japan, 2010. (Poster)
- **E. Tolak Çiftçi**, N. Oshiman, S. B. Tank, M.K. Tunçer, G. Karcioğlu, Y. Honkura, Y. Ogawa, M. Matsushima, “Imaging of Electrical Conductivity Structure at the Western part of the North Anatolian Fault Zone by Magnetotellurics”, International Earthquake Symposium (pp.72). Kocaeli, Turkey, September 2009.
- B. Tank, Y. Ogawa, Y. Honkura, M.K. Tunçer, N. Oshiman, M. Matsushima, T. Kaya, **E. Tolak**, “Imaging the Electrical Resistivity Structure at the Vicinity of the Düzce Earthquake Epicenter, Turkey,” JpGU Meeting, Chiba, Japan, May 2009.
- S.B. Tank, Y. Ogawa, Y. Honkura, N. Oshiman, M.K. Tunçer, M. Matsushima, **E. Tolak**, T. Kaya, I. Rokityansky, “Imaging the Electrical Resistivity Structure of Düzce Fault, Turkey,” Conductivity Anomaly (CA) Workshop, Tokyo, Japan, February 2009.
- T. Kaya, S.B. Tank, M.K. Tunçer, I.I. Rokityansky, **E. Tolak**, “Investigation of Düzce Fault Using Magnetotelluric Method,” Magnetotelluric and Geo-electric Workshop, ITU Mining Faculty, Istanbul, Turkey, November 13-14, 2008.
- G. Karcioğlu, B. Tank, A. Gürer, **E. Tolak**, T. Kaya, M.K. Tunçer, “Investigation of Çatalca Fault and Its Vicinity Using Magnetotelluric Method,” Magnetotelluric and Geo-electric Workshop, ITU Mining Faculty, Istanbul, Turkey, November 13-14, 2008.
- T. Kaya, S.B. Tank, Y. Honkura, Y. Ogawa, T. Kasaya, M. Matsushima, M.K. Tunçer, **E. Tolak**, “Imaging of South Marmara Region in Turkey Using Magnetotellurics,” IAGA WG 1.2 on Electromagnetic Induction in the Earth 19th Workshop, Beijing, China, October 23-29, 2008.

- G. Karcioğlu, B. Tank, A. Gurer, **E. Tolak**, T. Kaya, M.K. Tunçer, “Investigation of Çatalca Fault and Its Vicinity Using Magnetotellurics Method,” IAGA WG 1.2 on Electromagnetic Induction in the Earth 19th Workshop, Beijing, China, October 23-29, 2008.
- Y. Ogawa, T. Kasaya, S.B. Tank, M.K. Tunçer, Y. Honkura, T. Kaya, **E. Tolak**, N. Oshiman, M. Matsushima, S. Nagaoka, “Ocean Bottom Magnetotelluric Measurements for Imaging the North Anatolian Fault Zone at the Marmara Sea, Turkey,” IAGA WG 1.2 on Electromagnetic Induction in the Earth 19th Workshop, Beijing, China, October 23-29, 2008.
- T. Kaya, S.B. Tank, M.K. Tunçer, I. Rokityansky, **E. Tolak**, T. Savchenko, “Magnetotelluric Imaging of Düzce Fault, Turkey,” European Geosciences Union (EGU), Vienna, Austria, April 2007.
- T. Kaya, S.B. Tank, M.K. Tunçer, I. Rokityansky, **E. Tolak**, C. Çelik, T. Savchenko, “Magnetotelluric Imaging of Düzce Fault, Turkey,” 18th International Workshop on Electromagnetic Induction in the Earth, El Vendrell, Spain, September 17-23, 2006.
- **E. Tolak**, M.K. Tunçer, R. Yoshimura, T. Kasaya, N. Oshiman, C. Çelik, Y. Honkura, A.M. Işıkara, “Deep Resistivity Structure Revealed by Wideband Magnetotellurics of Yalova-Gemlik Region, Turkey,” EGS-AGU-EUG Joint Assembly, April 6-11, 2003, Nice, France. (Poster)
- S.B. Tank, Y. Honkura, Y. Ogawa, N. Oshiman, M.K. Tunçer, C. Çelik, **E. Tolak**, “Magnetotelluric Imaging of the Western Part of the North Anatolian Fault Zone,” 16th Induction Workshop, Santa Fe, USA, June 2002.
- S.B. Tank, Y. Honkura, N. Oshiman, M.K. Tunçer, C. Çelik, **E. Tolak**, “Magnetotelluric Imaging of the Western Part of the North Anatolian Fault Zone,” International Workshop on Physics of the Active Fault, NIED (National Research Institute for Earth Science and Disaster Prevention), February 26-27, 2002, Tsukuba, Japan. (Poster)
- Y. Honkura, S.B. Tank, N. Oshiman, M.K. Tunçer, **E. Tolak**, C. Çelik, “Geomagnetic Observations in the Western Part of the North Anatolian Fault Zone,” 110th SGEPPS (Society of Geomagnetism and Earth, Planets and Space Sciences) Fall Meeting, November 22-25, 2001, Kyushu, Japan.
- Oshiman, N., R. Yoshimura, T. Kasaya, Y. Honkura, M. Matsushima, S. Barış, C. Çelik, M.K. Tunçer, **E. Tolak**, A.M. Işıkara, “Deep Resistivity Structure in the Western Part of the North Anatolian Fault Zone, Turkey,” IAGA-IASPEI Joint Scientific Assembly 2001, August 29-31, 2001, Hanoi, Vietnam. (Poster)
- Yoshimura, R., Y. Honkura, N. Oshiman, T. Kasaya, **E. Tolak**, M.K. Tunçer, S. Barış, C. Çelik, and A.M. Işıkara, “A Preliminary Report on Wideband MT Survey in the Western Part of the North Anatolian Fault Zone — Gemlik-Yalova Region,” 108th SGEPPS Fall Meeting, 2000.
- Kasaya, T., N. Oshiman, Y. Honkura, R. Yoshimura, **E. Tolak**, C. Çelik, M.K. Tunçer, S. Barış, and A.M. Işıkara, “Preliminary Results of MT Survey Around Thermal Area in the Western Part of the North Anatolian Fault Zone,” 108th SGEPPS Fall Meeting, 2000.
- Honkura, Y., N. Oshiman, R. Yoshimura, T. Kasaya, **E. Tolak**, M.K. Tunçer, M. Matsushima, and A.M. Işıkara, “Resistivity Structure in the Vicinity of the Izmit Earthquake Rupture Zone and its Relation to Seismic Activity,” AGU Fall Meeting, December 2000, San Francisco. (Poster)