

Prof. ERKAN AYDAR

Personal Information

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Education Information

Doctorate, Université d'Auvergne Clermont-Ferrand I, Laboratoire Magma Et Volcans, France 1989 - 1992

Postgraduate, Université d'Auvergne Clermont-Ferrand I, Laboratoire Magmas Et Volcans, France 1988 - 1989

Undergraduate, Hacettepe University, Mühendislik Fakültesi, Jeoloji Mühendisliği Bölümü, Turkey 1981 - 1986

Foreign Languages

English, C1 Advanced

French, C1 Advanced

Dissertations

Doctorate, Etude volcano-structurale et magmatologique du strato-volcan Hasan Dagi (Anatolie Centrale-Turquie),
Université Blaise Pascal: Clermont-Ferrand I, Laboratoire Magma Et Volcans, 1992

Research Areas

Geological Engineering, Geology, Ore Deposits-Geochemistry, Mineralogy-petrography, Applied Geology, Engineering and Technology

Academic Titles / Tasks

Professor, Hacettepe University, Mühendislik Fakültesi, Jeoloji Mühendisliği Bölümü, 2003 - Continues

Associate Professor, Hacettepe University, Mühendislik Fakültesi, Jeoloji Mühendisliği Bölümü, 1997 - 2003

Assistant Professor, Hacettepe University, Mühendislik Fakültesi, Jeoloji Mühendisliği Bölümü, 1993 - 1997

Academic and Administrative Experience

Hacettepe Üniversitesi, Mühendislik Fakültesi, Jeoloji Mühendisliği Bölümü, 2016 - Continues

Hacettepe Üniversitesi, Mühendislik Fakültesi, Jeoloji Mühendisliği Bölümü, 2006 - 2009

Hacettepe Üniversitesi, Mühendislik Fakültesi, Jeoloji Mühendisliği Bölümü, 2003 - 2006

Supervised Theses

- AYDAR E., Göllüdağ-Acıgöl (Kapadokya Volkanik Provensi) bölgesinde yer alan Karnıyarık tepe cüruf konisinin ve Güneydağ tuf halkasının patlama ve yerleşme dinamiklerinin saptanması, Postgraduate, A.ANÇEL(Student), 2012
- AYDAR E., Nevşehir yöresi magmatik kayalarında bulunan zirkon minerallerinin incelenmesi, Postgraduate, L.AKIN(Student), 2012
- AYDAR E., Nevşehir bölgesindeki miyosen- pliyosen yaşlı efüvizif, ekstrüvizif volkanik faaliyetlerin incelenmesi, Postgraduate, E.KABADAYI(Student), 2010
- AYDAR E., Nevşehir - Acıgöl Kaldera kompleksinin jeofizik yöntemlerle incelenmesi, Postgraduate, O.ATAK(Student), 2010
- AYDAR E., Petrologic evolution of Nemrut stratovolcano (Türkiye): Peralkaline magmatism in a collisional domain, Doctorate, H.EVREN(Student), 2008
- AYDAR E., Quantitative morphological analysis of ashes from pyroclastic deposits of hydrovolcanic and magmatic origin, Doctorate, O.ERSOY(Student), 2007
- AYDAR E., Türkmen dağı (Demirci-Manisa) ve çevresindeki pegmatitlerin oluşumu ve yerleşiminin incelenmesi, Postgraduate, G.ATICI(Student), 2006

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Lake level fluctuation controls the formation, types, and abundance of coated grains in hypersaline lakes: a case study from Urmia Lake (NW Iran)**
Ertunc G., Mohammadı A., Çiner T. A., Eriş K. K., AYDAR E., Lak R., Yetemen Ö.
JOURNAL OF QUATERNARY SCIENCE, 2025 (SCI-Expanded)
- II. **Temporal constraints on magmatic evolution of Acıgöl Bimodal Volcanic Field (Nevşehir, Türkiye)**
ÇUBUKÇU H. E., AYDAR E., AKIN L., ŞEN E.
GEOCHEMISTRY, vol.84, no.4, 2024 (SCI-Expanded)
- III. **A deep insight into a chemically homogeneous banded pumice sample: a role of crystal cargo immiscibility**
AKIN L., AYDAR E., CEYLAN A.
Turkish Journal of Earth Sciences, vol.33, no.3, pp.341-361, 2024 (SCI-Expanded)
- IV. **Insight into a rift volcanism with the petrogenesis of ultramafic enclaves and the host basalts: Kula Volcanic Field, Western Anatolia, Turkey**
ŞEN E., AYDAR E., Şen P., Gourgaud A.
Italian Journal of Geosciences, vol.142, no.2, pp.291-315, 2023 (SCI-Expanded)
- V. **Quantitative Mineralogy in Characterization of Historical Tailings: A Case from the Abandoned Balya Pb-Zn Mine, Western Turkey**
Gurtekin G., AYDAR E.
NATURAL RESOURCES RESEARCH, vol.32, no.1, pp.195-212, 2023 (SCI-Expanded)
- VI. **Differentiation Index: A New Proxy for Determining Suitability of Volcanic Rocks for Production of Different Fiber Types**
ERSOY O., AYDAR E., ÇUBUKÇU H. E., Atalay C.
NATURAL RESOURCES RESEARCH, vol.31, no.1, pp.117-130, 2022 (SCI-Expanded)
- VII. **The emission of natural harmful particulate matters by wind erosion and possible impact areas, Cappadocia province, Central Anatolia, Turkey**
AYDAR E., AKKAŞ E.
BULLETIN OF ENGINEERING GEOLOGY AND THE ENVIRONMENT, vol.81, no.1, 2022 (SCI-Expanded)
- VIII. **Shoshonitic volcanism of the Bodrum caldera (SW Turkey): Hybridization of enriched mantle-derived and crustal melts**
ÇUBUKÇU H. E., AYDAR E., ULUSOY İ., Gourgaud A.
JOURNAL OF ASIAN EARTH SCIENCES, vol.219, 2021 (SCI-Expanded)

- IX. **Volcanic ash and tsunami record of the Minoan Late Bronze Age Eruption (Santorini) in a distal setting, southwestern Turkey**
 AYDAR E., Ciner A., ERSOY O., Ecochard E., Fouache E. G.
 JOURNAL OF QUATERNARY SCIENCE, vol.36, no.4, pp.586-597, 2021 (SCI-Expanded)
- X. **Geochemical Evaluation of Suitability of Central Anatolian (Turkey) Volcanic Rocks for Rock Fiber Production**
 ERSOY O., AYDAR E., ÇUBUKÇU H. E.
 NATURAL RESOURCES RESEARCH, vol.30, no.2, pp.1093-1104, 2021 (SCI-Expanded)
- XI. **Zircon geochronology and O-Hf isotopes of Cappadocian ignimbrites: New insights into continental crustal architecture underneath the Central Anatolian Volcanic Province, Turkey**
 AKIN L., AYDAR E., Schmitt A. K., ÇUBUKÇU H. E., Gerdes A.
 GONDWANA RESEARCH, vol.91, pp.166-187, 2021 (SCI-Expanded)
- XII. **Carcinogen soil radon enrichment in a geothermal area: Case of Guzelcamli-Davutlar district of Aydin city, western Turkey**
 AYDAR E., DİKER C.
 ECOTOXICOLOGY AND ENVIRONMENTAL SAFETY, vol.208, 2021 (SCI-Expanded)
- XIII. **Volcanic unrest possibilities in response to recent Obruk seismic swarm on and around Hasandag stratovolcano (Central Anatolia, Turkey)**
 AYDAR E., DİKER C., ULUSOY İ., ŞEN E.
 COMPTES RENDUS GEOSCIENCE, vol.353, no.1, pp.1-18, 2021 (SCI-Expanded)
- XIV. **Application of zircon typology method to felsic rocks (Cappadocia, Central Anatolia, Turkey): a zircon crystallization temperature perspective**
 AKIN L., AYDAR E., Schmitt A. K., ÇUBUKÇU H. E.
 TURKISH JOURNAL OF EARTH SCIENCES, vol.28, no.3, pp.351-386, 2019 (SCI-Expanded)
- XV. **Identifying the Volcanic Eruption Depicted in a Neolithic Painting at Catalhoyuk, Central Anatolia, Turkey**
 SCHMITT A. K., DANISIK M., AYDAR E., ŞEN E., ULUSOY İ., LOVERA O. M.
 PLOS ONE, vol.9, no.1, 2014 (SCI-Expanded)
- XVI. **Comments on "Monitoring soil erosion in Cappadocia region (Selime-Aksaray-Turkey)" by Yilmaz et al. (Environ Earth Sci 2012, 66:75-81)**
 Ciner A., Sarikaya M. A., Aydar E.
 ENVIRONMENTAL EARTH SCIENCES, vol.70, no.4, pp.1927-1931, 2013 (SCI-Expanded)
- XVII. **Multi-directional derivation of self-potential/elevation gradient (Ce) maps - swirl procedure**
 ULUSOY İ., LABAZUY P., AYDAR E.
 NEAR SURFACE GEOPHYSICS, vol.11, no.3, pp.275-282, 2013 (SCI-Expanded)
- XVIII. **Central Anatolian Plateau, Turkey: incision and paleoaltimetry recorded from volcanic rocks**
 AYDAR E., ÇUBUKÇU H. E., ŞEN E., AKIN L.
 TURKISH JOURNAL OF EARTH SCIENCES, vol.22, no.5, pp.739-746, 2013 (SCI-Expanded)
- XIX. **A Rhinocerotid Skull Cooked-to-Death in a 9.2 Ma-Old Ignimbrite Flow of Turkey**
 ANTOINE P., ORLIAC M. J., ATICI G., ULUSOY İ., ŞEN E., ÇUBUKÇU H. E., ALBAYRAK E., OYAL N., AYDAR E., SEN S.
 PLOS ONE, vol.7, no.11, 2012 (SCI-Expanded)
- XX. **Volcanological evolution and caldera forming eruptions of Mt. Nemrut (Eastern Turkey)**
 ULUSOY İ., ÇUBUKÇU H. E., AYDAR E., LABAZUY P., ERSOY O., ŞEN E., GOURGAUD A.
 JOURNAL OF VOLCANOLOGY AND GEOTHERMAL RESEARCH, vol.245, pp.21-39, 2012 (SCI-Expanded)
- XXI. **STcorr: An IDL code for image based normalization of lapse rate and illumination effects on nighttime TIR imagery**
 ULUSOY İ., LABAZUY P., AYDAR E.
 COMPUTERS & GEOSCIENCES, vol.43, pp.63-72, 2012 (SCI-Expanded)
- XXII. **Correlation of ignimbrites in the central Anatolian volcanic province using zircon and plagioclase ages and zircon compositions**
 AYDAR E., SCHMITT A. K., ÇUBUKÇU H. E., AKIN L., ERSOY O., ŞEN E., Duncan R. A., ATICI G.

- JOURNAL OF VOLCANOLOGY AND GEOTHERMAL RESEARCH, vol.213, pp.83-97, 2012 (SCI-Expanded)
- XXIII. **Mt. Nemrut volcano (Eastern Turkey): Temporal petrological evolution**
ÇUBUKÇU H. E., ULUSOY İ., AYDAR E., ERSOY O., ŞEN E., GOURGAUD A., GUILLOU H.
JOURNAL OF VOLCANOLOGY AND GEOTHERMAL RESEARCH, vol.209, pp.33-60, 2012 (SCI-Expanded)
- XXIV. **Surface area and volume measurements of volcanic ash particles using micro-computed tomography (micro-CT): A comparison with scanning electron microscope (SEM) stereoscopic imaging and geometric considerations**
ERSOY O., ŞEN E., AYDAR E., TATAR İ., Celik H. H.
JOURNAL OF VOLCANOLOGY AND GEOTHERMAL RESEARCH, vol.196, pp.281-286, 2010 (SCI-Expanded)
- XXV. **Structure of the Nemrut caldera (Eastern Anatolia, Turkey) and associated hydrothermal fluid circulation**
ULUSOY İ., LABAZUY P., AYDAR E., ERSOY O., Cubukcu E.
JOURNAL OF VOLCANOLOGY AND GEOTHERMAL RESEARCH, vol.174, no.4, pp.269-283, 2008 (SCI-Expanded)
- XXVI. **Quantitative analysis on volcanic ash surfaces: Application of extended depth-of-field (focus) algorithm for light and scanning electron microscopy and 3D reconstruction**
ERSOY O., AYDAR E., Gourgaud A., BAYHAN H.
MICRON, vol.39, no.2, pp.128-136, 2008 (SCI-Expanded)
- XXVII. **WDS versus silicon drift detector EDS: A case report for the comparison of quantitative chemical analyses of natural silicate minerals**
ÇUBUKÇU H. E., ERSOY O., AYDAR E., Cakir U.
MICRON, vol.39, no.2, pp.88-94, 2008 (SCI-Expanded)
- XXVIII. **Volcano stratigraphy and petrogenesis of the Nemrut stratovolcano (East Anatolian high Plateau): The most recent post-collisional volcanism in Turkey**
Cubukcu H. E., Aydar E., Gourgaud A.
CHEMICAL GEOLOGY, vol.245, pp.120-129, 2007 (SCI-Expanded)
- XXIX. **Clustering of volcanic ash arising from different fragmentation mechanisms using Kohonen self-organizing maps**
Ersoy O., Aydar E., Gourgaud A., Artuner H., Bayhan H.
COMPUTERS & GEOSCIENCES, vol.33, no.6, pp.821-828, 2007 (SCI-Expanded)
- XXX. **Texture discrimination of volcanic ashes from different fragmentation mechanisms: A case study, Mount Nemrut stratovolcano, eastern Turkey**
ERSOY O., CHINGA G., AYDAR E., GOURGAUD A., Cubukcu H. E., Ulusoy I.
COMPUTERS & GEOSCIENCES, vol.32, no.7, pp.936-946, 2006 (SCI-Expanded)
- XXXI. **Volcanic and deformation history of the Bodrum resurgent caldera system (southwestern Turkey)**
Ulusoy I., Cubukcu E., AYDAR E., LABAZUY P., GOURGAUD A., VINCENT P.
JOURNAL OF VOLCANOLOGY AND GEOTHERMAL RESEARCH, vol.136, pp.71-96, 2004 (SCI-Expanded)
- XXXII. **Interaction of asthenospheric and lithospheric mantle: The genesis of calc-alkaline volcanism at Erciyes Volcano, central Anatolia, Turkey**
Kurkcuoglu B., Sen E., Temel A., Aydar E., Gourgaud A.
INTERNATIONAL GEOLOGY REVIEW, vol.46, no.3, pp.243-258, 2004 (SCI-Expanded)
- XXXIII. **Volcanological evolution of Mount Erciyes stratovolcano and origin of the Valibaba Tepe ignimbrite (Central Anatolia, Turkey)**
Sen E., Kurkcuoglu B., Aydar E., Gourgaud A., Vincent P.
JOURNAL OF VOLCANOLOGY AND GEOTHERMAL RESEARCH, vol.125, pp.225-246, 2003 (SCI-Expanded)
- XXXIV. **Morphological analysis of active Mount Nemrut stratovolcano, eastern Turkey: evidences and possible impact areas of future eruption**
AYDAR E., GOURGAUD A., Ulusoy I., DIGONNET F., LABAZUY P., Sen E., Bayhan H., Kurttas T., TOLLUOGLU A.
JOURNAL OF VOLCANOLOGY AND GEOTHERMAL RESEARCH, vol.123, pp.301-312, 2003 (SCI-Expanded)
- XXXV. **Initial explosive phases during extrusion of volcanic lava domes: example from rhyodacitic dome of Dikkartin Dag, Erciyes stratovolcano, Central Anatolia, Turkey**
Sen E., Aydar E., Gourgaud A., Kurkcuoglu B.

COMPTES RENDUS GEOSCIENCE, vol.334, no.1, pp.27-33, 2002 (SCI-Expanded)

- XXXVI. **Trace-element modeling and source constraints for tholeiitic and calc-alkaline basalts from a depleted asthenospheric mantle source, Mt. Erciyes Stratovolcano, Turkey**

Kurkcuoglu B., Sen E., Temel A., Aydar E., Gourgaud A.

INTERNATIONAL GEOLOGY REVIEW, vol.43, no.6, pp.508-522, 2001 (SCI-Expanded)

- XXXVII. **Geochemical approach to magmatic evolution of Mt Erciyes stratovolcano central Anatolia, Turkey**

Kurkcuoglu B., Sen E., Aydar E., Gourgaud A., Gundogdu N.

JOURNAL OF VOLCANOLOGY AND GEOTHERMAL RESEARCH, vol.85, pp.473-494, 1998 (SCI-Expanded)

Articles Published in Other Journals

- I. **Inverted volcanic relief: Its importance in illustrating geological change and its geoheritage potential**
van Wyk de Vries B., Karatson D., Gouard C., Karoly N., Rapprich V., AYDAR E.
International Journal of Geoheritage and Parks, vol.10, no.1, pp.47-83, 2022 (Scopus)
- II. **Surface Defects and Corrosions Developed on Copper Clad Aluminium Wires Investigated by Scanning Electron Microscope Analysis and X-Ray Mappings Defectos superficiales y corrosión desarrollada en alambres de aluminio revestidos con cobre, estudiados mediante análisis por Microscopía Electrónica de Barrido y mapas de Rayos X**
AYDAR E.
Acta Microscopica, vol.31, no.2, pp.1-8, 2022 (Scopus)
- III. **Dağıtılmış Anahtarlamalı Özdirenç Görüntüleme Sistemi**
ULUSOY İ., ARTUNER H., Aydar E.
Yerbilimleri, vol.33, pp.205-218, 2012 (Peer-Reviewed Journal)

Books

- I. **Nemrut Caldera and Eastern Anatolian Volcanoes: Fire in the Highlands**
ULUSOY İ., ÇUBUKÇU H. E., Mouralis D., AYDAR E.
in: Landscapes and Landforms of Turkey, Kuzucuoğlu Catherine, Çiner Attila, Kazancı Nizamettin, Editor, Springer Nature, Cham, pp.589-599, 2019
- II. **Nemrut caldera and Eastern Anatolian volcanoes: Fire in the highlands.**
ULUSOY İ., ÇUBUKÇU H. E., Mouralis D., AYDAR E.
in: Landscapes and Landforms of Turkey, Kuzucuoğlu, C., Kazancı, N., Ciner,, Editor, Springer, Cham, pp.589-599, 2019

Papers Published in Refereed Scientific Meetings

- I. **Acıgöl Maar Gölü'nün (Nevşehir, Orta Anadolu) Holosen Yaşlı Ostrakod Faunası ve Paleootamsal Özellikleri**
TUNOĞLU C., TUNCER A., AYDAR E., ŞEN E., GÜMÜŞ B. A.
71. Türkiye Jeoloji Kurultayı, 23 - 27 April 2018
- II. **Volcanic Ash –Aircraft Encounter Damages: in Volcanological Point of View**
AYDAR E., ALADAĞ Ç. H., MENTEŞ T.
European Geosciences Union, Viyana, Austria, 22 - 30 April 2017
- III. **ANATOLIAN UPLIFT CAUSE OF CAUSE EFFECT MAGMATISM VS TECTONIC**
AYDAR E., ÇUBUKÇU H. E., AKIN L., Schmitt A. K.
From Deep Earth to Surface:integrating lithosphere dynamics with rift basins and margins, 2 - 06 October 2016
- IV. **Pioneer Seismic Network installed on an Anatolian volcano: Mount Nemrut (Eastern Turkey)**

Supported Projects

AYDAR E., Project Supported by Other Private Institutions, Biyokütle Pirolyzi ve katkı seçimleri, 2016 - Continues

AYDAR E., Project Supported by Higher Education Institutions, Nemrut Kalderasının kaldera içi yapısalılığının jeofizik etüdlerle incelenmesi, 2004 - Continues

AYDAR E., Project Supported by Higher Education Institutions, Nemrut Sismik Gözlem Ağı Sisteminin Tekrar Aktif Hale Getirilmesi, 2017 - 2017

AYDAR E., Project Supported by Higher Education Institutions, Volkanik Kül-Uçak Karşılaşma Zararları Volkanolojik Bakış Açısıyla EGU-2017 Viyana-Avusturya Kongresi katılımı (22 Nisan 2017-30 Nisan 2017), 2017 - 2017

AYDAR E., Project Supported by Higher Education Institutions, Bilimsel Toplantı Katılım (Sorbonne Üniversitesi Jüri Üyeliği), 2016 - 2017

AYDAR E., Project Supported by Higher Education Institutions, ANADOLU YÜKSELİMİ ETKİ TEPKİNİN ETKİSİ MAGMATİZMA TEKTONİĞE KARŞI, 2016 - 2017

AYDAR E., Project Supported by Other Private Institutions, Beypazarı Boyalı Köyü Civarında Kurulmakta olan Beypi Piliç Damızlık Kümesinin bulunduğu alanın Jeolojik Jeomorfolojik Hidrojeolojik özelliklerinin belirlenmesi olası atıkların yaratabileceği çevre kirliliği konularının araştırılması, 2016 - 2016

Metrics

Publication: 48

Citation (WoS): 536

Citation (Scopus): 646

H-Index (WoS): 17

H-Index (Scopus): 16

Non Academic Experience

Aterra Ar-Ge, Yönetici

Terra Ar-Ge-Hacettepe Teknokent, Yönetici