

March, 2024

Prof. Dr. Atiye TUĞRUL



CORRESPONDING ADDRESS

Istanbul University-Cerrahpasa
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TURKIYE

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CURRICULUM VITAE

DATE OF BIRTH AND PLACE: 22.05.1966, Diyarbakır – Türkiye

PROFESSION : Geological Engineer (MSc, PhD)

CURRENT POSITION : Professor
Istanbul University, Engineering Faculty
Department of Geological Engineering,
Applied Geology Division,
Avcilar-ISTANBUL / TURKEY

FOREIGN LANGUAGE : English

EDUCATION:
B.S. : 1987; Istanbul University
Department of Geological Engineering, Istanbul / Türkiye
MSc, PhD: 1990, 1995; Istanbul University
Institute of Science, Istanbul / Türkiye

SPECIALIZATION : Engineering Geology, Rock Weathering, Aggregate and Dimension Stone Quarries (resource and reserve evaluating, aggregate and marble quality, quarry design and mine planning), Geotechnical Field Investigations, Engineering Geological Mapping, Rock and Slope Stability, Utilizing Aggregate and Dimension Stone Quarry Wastes, Protection of Stone in Historical Monuments.

COURSES - CERTIFICATES:

- Certificate of Successful Completion IRCA certified Auditor/Lead Auditor course presented by KALİTEST Certification and Training Services Limited Company. The course covered "Practical Auditing of Quality Management Systems according to ISO 9001:2008&ISO 19011:2002", 21-25 April 2009, İstanbul, Turkey, Certification No: A 17044, Certificate No: 6180.

- According to **TSEN ISO/IEC 17025: 2012** organized by TURKAK (Turkish Accreditation Agency), **Certificate of Internal Manager Training**, 18-19 December 2014, KD04-80 / 14-K643.
- Certification of Participation **GEOBRUGG, RUVOLUM Workshop**, May 27 2014, İstanbul
- Certificate of Participation in Workshop "**STONE INTEL-SMART SPECIALIZATION IN NATURAL STONE**" Organized by ValorPedra Portugal - Global Stone Congress October 23, 2014 – Antalya, Turkey, Turkey.
- Labor Law, **Occupational Health And Safety OHS Concept**, Physical Factors, Working with Screened Vehicles, Occupational Safety in Electrical Works, Personal Protective Equipment, Health and Safety Signs, Safety Culture, Common Occupational Accidents and Prevention Methods, Occupational Diseases, Chemical Factors, Fire, Explosion, Gliding, Protection from chemicals, Certificate of Participation in Training on Fire Protection, Istanbul University, Continuing Education and Application Center, 21 October-21 November 2014.
- Certificate of **GEOVIA Mining Technologies** Seminar organized by the Association of Mining Geologists and GEOVIA, 8-9 May 2018, Ankara. Participation Document Number: 20180508_106.
- **2D and 3D Numerical Modelling in Geomechanics: Rocscience Software Applications Workshop**, 1-2 October 2018, İstanbul.

PROFESSIONAL PRACTICE:

July 1988-February 1989

: IGL-STFA Joint Venture
 II. Bosphorus Bridge Highway Project Quality Control
 Engineer, Istanbul-Türkiye.
Responsible for Aggregate Quarry, Asphalt, and Concrete plant

1989- 2018

: **Istanbul University**, Engineering Faculty, Türkiye
 Dept. of Geological Engineering

1989-1996

: Research Assistant

1996-1999

: Assistant Professor

1999-2005

: Associate Professor

2005-2018

: Professor

2011

: Visiting Professor, **Kent State University**, Department of Geological Engineering, USA.

2011

: Visiting Professor, **Virginia Tech**, Department of Mining Engineering, USA

2014-2018

: Part-time Lecturer, Civil Engineering Department, **Istanbul Kültür University**, Türkiye

2018- present

: Professor, **Istanbul University-Cerrahpasa**, Engineering Faculty, Dept. of Geological Engineering, Türkiye

2017 – present

: Coordinator, **Cebeci Mining Area in İstanbul** (Combining project 16 very risky aggregate quarries).

2016 – present : Consultant, Republic of Türkiye Ministry of Energy and Natural Resources, **General Directorate of Mining and Petroleum Affairs (MAPEG)**

OTHER PROFESSIONAL ACTIVITIES:

INTERNATIONAL

- **CRIRSCO** (Committee for Mineral Reserves International Reporting Standards) **Member**, Representative of UMREK-TURKIYE
www.crirSCO.com
- **Coordinator of CRIRSCO** Dimension Stone and Construction Materials Working Group
- **Vice President for Europe**, International Association for Engineering Geology and the Environment (IAEG.)
- **Chairperson of IAEG Commission on Aggregates- C. 17** (2004-present).
- **Vice Chairperson** of IAEG Commission on Aggregates- C. 17 (1999-2004).
- **Member** of IAEG Commission on Building Stones and Ornamental Rocks (C10)
- **Member** IAEG Commission on Engineering Geology and Protection of Monuments (C16)
- **Core Group Member**, Global Stone
- **Member**, International Society for Rock Mechanics (ISRM)
- **Member** of the Australasian Institute of Mining and Metallurgy (AusIMM)

NATIONAL

- **Vice President**, National Resources and Reserves Reporting Committee (UMREK), (2020-2023).
www.umrek.com.tr
- **Member**, National Resources and Reserves Reporting Committee (UMREK), (2018-2020).
- **Founding member, Member of the Board**, The Association of the International Association for Environment and Communication (UCID).
- **Member**, Chamber of Geological Engineers of Türkiye
- **Founding member, Member of the Board**, The Association of Geosciences, Mining and Metallurgy Professionals (YERMAM), (2014-2021).
www.yermam.org.tr

- **Head of Applied Geology Division**, Istanbul University, Engineering Faculty, Department of Geological Engineering (2011-2020).
www.agub.org.tr
- **Honorary Member**, Turkish Union of Aggregate Producers (AGÜB)
<http://agub.org.tr/onursal-uyeler>
- **Honorary Member**, Women in Mining Turkiye (WIM Turkiye)
- **Member of Scientific Committee**, Turkish Association Ready Mixed Concrete (THBB)
- **Member of Quality Assurance Board (KGS)**, Turkish Association Ready Mixed Concrete (THBB)
- **Technical Advisor in CE Marking on Aggregates**-Turkish Association Ready Mixed Concrete (THBB) (2004-2014).
- **Association of Engineering Geology**, Founding member, Member of the Board (2014-2020).
www.muhejo.org.tr
- **Director of Natural Stone Laboratory**, Istanbul University, Department of Geological Engineering (2004-present).
- **Turkish Mining Development Foundation**, Member of Advisory Board (2005-present).
- **Academic Assignment Board Member**, Istanbul University, Engineering Faculty (2006-2009).
- **Secretary General** of IAEG Turkish National Group (2004-2010).
- **Deputy Secretary General** of International Association of Engineering Geology (IAEG) Turkish National Group (1999-2004).
- **Member of the Commission on Engineering Geology**, Chamber of Geological Engineers, (2009- 2011).
- **Member of the Commission on Mining**, Chamber of Geological Engineers (2009- 2012).
- **Commission Member** of İstanbul University Research Fund (2008-2009).
- **Faculty Board Member**, Istanbul University, Engineering Faculty (2012-2015).
- **Vice Head of the Department of Geological Engineering at İstanbul University** (2008-2012).
- **11th Five-Years Development Planning Studies run by the Republic of Turkiye**, Member of Mining Commission, Reporter for Natural Stones (Dimension Stones and Aggregates).

- **12th Five-Years Development Planning Studies run by the Republic of Turkiye**, Member of Mining Commission, Chairperson for Dimension Stones and Aggregates and Aggregates.

AWARDS AND SCHOLARSHIPS:

INTERNATIONAL

- Winner of "**Richard Wolter's Prize**" in 2002 given by IAEG (International Association for Engineering Geology and the Environment).
<https://iaeg.info/awards-and-prizes/richard-wolters-prize/>
- **Commemorative award** as IAEG Vice President, Europe 50th IAEG Anniversary, XII International IAEG Congress, 15-19 September 2014, Torino, ITALY.
- **World's most influential scientists in the "Career-long Impact" category** created by Elsevier and Stanford University (2021,2022 and 2023).

NATIONAL

- Master's degree scholarship by the General Directorate for State Hydraulic Works in Turkey (2018-2020).
- Winner of "Gold Hummer research prize" given by Chamber of Geol. Engineer's (2001).
- Winner of "Gold Hummer research prize" given by Chamber of Geol. Engineer's (2003).
- Winner of the prize on Int. research paper given by IAEG Turkish National Group (1998).
- Winner of the prize on Int. research paper given by IAEG Turkish National Group (1999).
- First prize in the category of "Academician Making Labour and Contributions to the Mining Sector, by the Republic of Turkey Ministry of Energy and Natural Resources, Republic of Turkey Ministry of Trade and IMMIB (Istanbul Mineral and Metal Exporters' Association) (2018).
- Winner of "Gold Hummer research prize" given by Chamber of Geol. Engineer's (2023)

EDITORSHIPS AND REVIEWERSHIPS:

a) Editorships

- Yüzer, E., Ergin, H. and **Tuğrul A.**, 2003, Proceedings of International Symposium on Industrial Minerals and Building Stones, Kelebek and Grafika Group, İstanbul, ISBN 975-92188-0-1, 931p.
- **Tuğrul, A.**, Akdaş, H., Yavuz, B. ve Yılmaz, M., 2016, Proceedings of 5th Global Stone Congress.

b) Reviewer for International Journals

1. Engineering Geology
2. Bulletin of Engineering Geology and the Environment (Assistant Editor)
3. Palaeogeography Palaeoclimatology Palaeoecology

4. Journal of African Earth Sciences
5. Association of Engineering Geologists
6. Geological and Geotechnical Engineering
7. Bulletin of the Mineral Research and Exploration

c) Reviewer for National Journals

1. Bulletin of Engineering Geology (Published by IAEG Turkish National Group)
2. İstanbul University Engineering Faculty's Earth Sciences Review
3. Geosound (Published by Çukurova University)
4. Pamukkale University Engineering Science Review Dergisi
5. Maden Tetkik ve Arama Dergisi

COURSES:

Undergraduate Courses (in English):

Geology for Engineers (2014-2018) İstanbul Kultur University

Undergraduate Courses (in Turkish):

Engineering Geology (1997-present)

Material Science in Geological Engineering (1997-present)

Collection and Evaluation of data in geotechnics (2007-2010)

Soil Mechanics (2007-2008)

Landslide Geology (1997-1998)

Graduate Courses (in Turkish):

Weathering-Failure Mechanism of Rocks

Weak Rock Engineering

Rock and soil as construction materials

Engineering geological studies in historical monuments and archaeological sites

Special investigations on dimension stones

Special investigations on aggregates

PUBLICATIONS:

2001– present more than 250 publications in scientific peer-reviewed journals international and national Conferences. Research with a solid scientific impact,
Citation (Scopus): 1199, H-Index (Scopus): 15 (March 2023)

BOOK CHAPTER

1. **Tuğrul, A.**, Ündül, Ö., 2009, Engineering geological characteristics of İstanbul graywackes, Turkey, Engineering Geology for tomorrow's cities, Edited by Culshaw, M.G., Reeves, H.J., Jefferson, I and Spink, T., Engineering Geology Special Publication 22, ISBN 978-1-86239-290-8.
2. Ündül, Ö., **Tuğrul, A.**, 2009, The engineering geology of İstanbul, Turkey, Engineering Geology for tomorrow's cities, Edited by Culshaw, M.G., Reeves, H.J., Jefferson, I and Spink, T., Engineering Geology Special Publication 22, ISBN 978-1-86239-290-8.
3. **Tuğrul A.**, Yılmaz M., Hasdemir S., Sönmez İ., 2016, "Developments in Engineering Geology ", in Geological Society Engineering Geology Special Publication No 27, Eggers M.J. Griffiths J.S. Parry S. Culshaw M.G., Eds., The Geological Society of London, London, pp.55-61.

4. **Tuğrul A.**, 2023 “Aggregate” in Handbook of Industrial Minerals, Eds., Ekrem YÜCE, M. Olgaç KANGAL, Güven Önal, Dündar Ergüenalp, Istanbul Mineral and Metals Exporters' Association, pp. 1-6.
5. **Tuğrul A.**, Avcı E., 2023 “Quartz/Quartzite” in Handbook of Industrial Minerals, Eds., Ekrem Yüce, M. Olgaç Kangal, Güven Önal, Dündar Ergüenalp, Istanbul Mineral and Metals Exporters' Association, pp. 168-176.

SELECTED PAPERS

1. **Tuğrul, A.** and Gürpınar, O., 1997, The effect of chemical weathering on the engineering properties of basalts in northeastern Turkey, *Environmental and Engineering Geoscience*, Vol. III, No. 2, Summer, pp. 225-234.
2. **Tuğrul, A.** and Gürpınar, O., 1997, A proposed weathering classification for basalts and their engineering properties. *Bulletin of the International Association of Engineering Geology*, No. 55, pp. 61-71.
3. **Tuğrul, A.** and Arel, E., 1997, Mineralogical, chemical and geotechnical characteristics of basaltic soil in Niksar, northern Turkey, Proceedings of 30th International Geological Congress, W. Sijing and P. Marinos (Eds.), VSP Publisher, Vol.23, 199-206.
4. **Tuğrul, A.**, 1997, Change in pore size distribution due to weathering of basalts and its engineering significance, Proceedings of International Symposium on Engineering Geology and the Environment, P.G. Marinos, G.C. Koukis, G.C. Tsiambaos and Stournaras (Eds.), Balkema, Vol. 1, 419-424.
5. **Tuğrul, A.**, 1998, The application of rock mass classification systems to underground excavation in weak limestone, *Engineering Geology*, 50, 337-345.
6. **Tuğrul, A.** and Zarif, İ.H., 1998, The influence of mineralogical and textural characteristics on the durability of selected sandstone in İstanbul, Turkey, *Bulletin of Engineering Geology and the Environment*, Vol. 57, No. 2, pp. 185-190.
7. **Tuğrul, A.**, Zarif, İ.H. and Gürpınar, O., 1998, Deterioration of limestones at Şehzade Mehmed Mosque and other monuments due to action of air pollutants in İstanbul (Turkey), Proceedings of 8th Congress of the International Association for Engineering Geology and the Environment, Vol. 4, 2923-2930.
8. Zarif, İ.H., **Tuğrul, A.** and Eroskay, S.O., 1998, The stability of the cut slopes in weak rocks: A case history from the route of Tarsus-Mersin motorway, Proceedings of 8th Congress of the International Association for Engineering Geology and the Environment, Vol. 5, 3101-3106.
9. **Tuğrul, A.** and Zarif, İ.H., 1999, Correlation of mineralogical and textural characteristics with engineering properties of selected granitic rocks from Turkey, *Engineering Geology*, 51, 303-317.
10. **Tuğrul, A.** and Zarif, İ.H., 1999, Research on limestone decay in a polluting environment (İstanbul-Turkey), *Environmental Geology*, Vol. 38, No.2, July, 149-158 (Corresponding author).
11. **Tuğrul, A.** and Zarif, İ.H., 2000, The influence of weathering on the geological and geomechanical characteristics of the sandstone in İstanbul, Turkey, *Environmental and Engineering Geoscience*. Vol. VI, No.4, November (Fall), 403-412.
12. **Tuğrul, A.** and Zarif, İ.H., 2000, Engineering aspects of limestone weathering in İstanbul, Turkey, *Bulletin of Engineering Geology and the Environment*, Vol.58, No.3, 191-206.
13. **Tuğrul, A.**, 2001, Weathering and its relation to geomechanical properties of Çavuşbaşı Granitic rocks in northwestern Turkey, *Bulletin of Engineering Geology and the Environment*, Vol.60, No.2, 123-133.

14. **Tuğrul, A.** and Zarif, İ.H., 2002, Evaluation of selected limestone for use as concrete aggregate, İstanbul, Turkey, Engineering Geology for Developing Countries, Proceedings of 9th Congress of the International Association for Engineering Geology and the Environment, Durban, South Africa, 2678-2686.
15. **Tuğrul, A.** and Zarif, İ.H., 2002, Aggregate Production In İstanbul, Turkey, Proceedings of International Symposium on Industrial Minerals and Building Stones (IMBS 2003), İstanbul, Turkey, 609-616.
16. **Tuğrul, A.**, 2004, The effect of weathering on pore geometry and compressive strength of selected rock types from Turkey, *Engineering Geology*, 75, 215-227.
17. Korkanç, M. and **Tuğrul, A.**, 2004, Evaluation of selected basalts from Niğde, Turkey, as the source of concrete aggregate, *Engineering Geology*, 75, 291-307.
18. Zarif, İ.H. and **Tuğrul, A.**, 2004, Aggregate properties of Devonian Limestones for use in concrete in İstanbul, Turkey, *Bulletin of Engineering Geology and the Environment*, Vol.62, No.4, 379-388.
19. Korkanç, M. and **Tuğrul, A.**, 2005, Evaluation of selected basalts from the point of alkali-silica reactivity, *Cement and Concrete Research*, 35, 505-512.
20. Ündül, Ö., **Tuğrul, A.**, 2012, The Influence of Weathering on the Engineering Properties of Dunites, *Rock Mechanics and Rock Engineering*, DOI 10.1007/s00603-011-0174-1.
21. Ündül, Ö., **Tuğrul, A.**, 2010, Changes in physico-mechanical properties of ultramafic rocks due to weathering, European Rock Mechanics Symposium, Eurock 2010, Lausanne, Switzerland, 15-18 June. In: *Rock Mechanics in Civil and Environmental Engineering* Zhao, J., Labiouse V., Dudt, J.P. and Mathier J.F., (eds), CRC Balkema Press p.123-127.
22. **Tuğrul, A.**, Ündül, Ö. and Yılmaz, M., 2010, Correlation of Different Sandstone Aggregates From The Point of Alkali-Silica Reactivity In Concrete. In Williams, A.L., Pinches G.M., Chin, C.Y., McMorran, T.J., and Massey, C.I. (editors), *Geologically Active*, Proceedings, 11th Congress of the International Association for Engineering Geology and the Environment, Auckland, New Zealand, CRC Press/Balkema, Taylor & Francis Group, London, U.K., 4553-4561.
23. Ündül, Ö., **Tuğrul, A.**, 2010, Cut slope failure in weathered ultramafics in Bursa, Turkey. In Williams, A.L., Pinches G.M., Chin, C.Y., McMorran, T.J., and Massey, C.I. (editors), *Geologically Active*, Proceedings, 11th Congress of the International Association for Engineering Geology and the Environment, Auckland, New Zealand, CRC Press/Balkema, Taylor & Francis Group, London, U.K., pp. 3749-3756.
24. Ündül, Ö., **Tuğrul, A.**, 2011, Identifying the weathering profiles of ultramafic rocks using Electrical Resistivity Tomography (ERT), 45th US Rock Mechanics / Geomechanics Symposium, San Francisco, Abstract Book p.43 and Symposium CD Paper No:172.
25. Adıgüzel, D., Başçetin, A., Yılmaz, M., **Tuğrul, A.**, Tüylü, S., 2011, Determination of optimal aggregate blending policy with linear programming in a quarry, 20th International Symposium on Mine Planning and Equipment Selection, Almaty, the Republic of Kazakhstan, 73-83, 12-14 October 2011.
26. Yılmaz, M., **Tuğrul, A.**, 2011, Usability of Granitic Rock Wastes as Asphalt Aggregate, Sustainable Aggregates Resource Management International Conference, pp. 135-141, 20-22 September 2011, Ljubljana, Slovenia.
27. **Tuğrul, A.**, 2011, Aggregate Production in İstanbul, Sustainable Aggregates Resource Management International Conference, pp. 123-129, 20-22 September 2011, Ljubljana, Slovenia.
28. **Tuğrul, A.**, Ündül, Ö., 2011, Stability problems in carboniferous sandstone and shales in İstanbul, Turkey. Environmental Geosciences and Engineering Survey for Territory

Protection and Population Safety International conference, EngeoPro-2011, 6-8 September, Moskow, Russia, p 183.

29. **Tuğrul, A.**, Ündül, Ö., Zarif, İ.H., 2012, Assessment of mass movements in the western part of Istanbul-Turkey. (11th International Symposium on Landslides (ISL) and 2nd North American Symposium on Landslides (NASL).
30. Hasdemir, S., **Tuğrul, A.**, Yılmaz, M., 2012, Evaluation of Alkali Reactivity of Natural Sands, *Construction and Building Materials*, 29, 378-385.
31. Yılmaz, M., **Tuğrul, A.**, 2012, The Effects of Different Sandstone Aggregates on Concrete Strength, *Construction and Building Materials*, 35, 294-303.
32. **Tuğrul, A.**, Yılmaz, M., 2012, Assessing the Quality of Sandstones for Use As Aggregate in Concrete, *Magazine of Concrete Research*, 64, 1-12.
33. Yılmaz, M., **Tuğrul, A.**, 2013, The importance of lithologic changes in an aggregate quarry, *International Symposium & 9th Asian Regional Conference of IAEG, Global View of Engineering Geology and the Environment*, pp. 405-412, 24-25 September 2013, Beijing, China.
34. **Tuğrul, A.**, Yılmaz, M., 2013, Evaluation of different sandstones for use as concrete aggregate, *International Symposium & 9th Asian Regional Conference of IAEG, Global View of Engineering Geology and the Environment*, 247-252, 24-25 September 2013, Beijing, China.
35. Yılmaz, M., **Tuğrul, A.**, Karasahin, M. and Boz, İ., 2014, Assessing the stripping properties of granites for use as aggregate in bituminous mixtures, *Bulletin of Engineering Geology and the Environment*, (basımda)
36. Korkanç, M., **Tuğrul, A.**, Savran, A., Özgür, F.Z., 2014, Structural–geological problems in Gümüşler archeological site and monastery, *Environmental Earth Science*, DOI:10.1007/s12665-014-3739-y, ISSN 1866-6280. Er, S., Yılmaz, M.,
37. **Tuğrul, A.**, Ertin, A., Tokgöz, N., Arel, E., 2014, Assessment of slope stability problems in an open pit quarry; an example from İstanbul Cebeci Region, Turkey, *IAEG XII Congress, Engineering Geology for Society and Territory-Volume 2*, 2097-2100, 15-19 September 2014, Torino, İtaly.
38. Yılmaz, M., **Tuğrul, A.**, Er, S., Ertin, A., Tokgöz, N., Arel, E., 2014, Rock slope stability assessment of limestone quarry; an example from İstanbul Cebeci Region, Turkey, *IAEG XII Congress, Engineering Geology for Society and Territory-Volume 2*, 827-831, 15-19 September 2014, Torino, İtaly.
39. **Tuğrul, A.**, Hasdemir, S., Yılmaz, M., 2014, The effect of feldspar, mica and clay minerals on compressive strength of mortar, *IAEG XII Congress, Engineering Geology for Society and Territory-Volume 5*, pp.93-96, 15-19 September 2014, Torino, İtaly.
40. **Tuğrul, A.**, Yılmaz, M., 2014, General view of aggregate industry in İstanbul, Turkey, *International Conference on Sustainable Aggregates Planning in South East Europe Proceeding Book*, pp. 9-12, 22-24 October 2014, Bled, Slovenia.
41. Ündül, Ö., **Tuğrul, A.**, Özyalın, Ş., İ. H. Zarif, 2015, Identifying the changes of geoenvironmental properties of dunites due to weathering utilizing electrical resistivity tomography (ERT), *Journal of Geophysics and Engineering*, Vol. 12, No. 2, 273-281,
42. Yılmaz M., **Tuğrul A.**, Karasahin M., Boz İ., 2015. Assessing the stripping properties of granite aggregates in bituminous mixtures, *Bulletin of Engineering Geology and the Environment*, vol.74, pp.673-682.
43. Alavi Nezhad Khalil Abad, S. V., **Tuğrul, A.**, Gökçeoğlu, C., Armaghani, D.J., 2016, Characteristics of weathering zones of granitic rocks, in Malaysia for geotechnical engineering design, *Engineering Geology, Volume 200C*, 94-103.
44. Hasdemir S., **Tuğrul A.**, Yılmaz M., 2016, "The effect of natural sand composition on concrete strength," *Construction and Building Materials*, pp.940-948.

45. Er, S., **Tuğrul, A.**, 2016, Estimation of Cerchar Abrasivity Index of granitic rocks in Turkey by geological properties using regression analysis, Bulletin of Engineering Geology and the Environment, Bull Eng Geol Environment (2016) 75:1325–1339, DOI 10.1007/s10064-016-0853-y.
46. Er, S., **Tuğrul, A.**, 2016, Correlation of physico-mechanical properties of granitic rocks with Cerchar Abrasivity Index in Turkey. Measurement 91, DOI: 10.1016/j.measurement.2016.05.034
47. Alavi Nezhad Khalil Abad, S. V., Yılmaz, M., Armaghani, D.J., **Tuğrul, A.**, 2016, Prediction of the durability of limestone aggregates using computational techniques, Neural Computing and Applications, DOI: 10.1007/s00521-016-2456-8.
48. Ündül, O., **Tuğrul, A.**, 2016, On the variations of geo-engineering properties of dunites and diorites related with weathering, Environmental Earth Sciences, 75(19):1326, DOI: 10.1007/s12665-016-6152-x.
49. Er S., Yılmaz M., Ertin A., **Tuğrul A.**, Tokgöz N., 2017. Assessment of Excavatability, Abrasivity and Slope Stability in a Sandstone Quarry in Istanbul, Turkey, Journal of The Geological Society Of India, vol.89, pp.581-588.
50. **Tuğrul A.**, Yılmaz M., 2018. Aggregate Mining in Megacities and Existing Problems: An Example from İstanbul, Turkey, 13th IAEG Congress, Engineering Geology for a Sustainable World, San Francisco, ABD, 15-23 September 2018, pp.85-90.
51. Yılmaz M., Ertin A., Er S., Tuğrul A., 2018. Numerical Modelling of Steep Slopes in Open Rock Quarries, Journal of The Geological Society of India, vol.91, pp.232-238.
52. Bilen C., Er S., Yılmaz M., Avci E., **Tuğrul A.**, 2018. Abrasiveness Properties at Different Temperatures of Basalt, Marble, and Limestone in Turkey, 34th International Geological Congress, Engineering Geology for a Sustainable World, San Francisco, ABD, 15-23 September 2018, pp.79-84.
53. Marone, P., Tuğrul, A., Calcaterra, D. and Cappelletti, P., 2019, Stone waste recycling and stone industry 4.0 at zero waste, V. International Stone Congress, İzmir, Turkey, 27 - 30 March 2019, pp.15.
54. Bilen C., Er S., **Tuğrul A.**, Yılmaz M., 2021. A New Approach for The Prediction of Brittleness Index Based on Chemical Properties of Basaltic Rocks, Acta Geodynamica Et Geomaterialia, 18, 285-299.
55. E Avcı, **A Tuğrul**, A Yörükoğlu, 2022, Determination of the expansion potential and processes of the sandstone (greywacke)-shale wastes, Bulletin of Engineering Geology and the Environment, 81 (7), 288.
56. Chamine H., Pires A., Fernandes I., Prikryl R., **Tuğrul A.**, Duzgun H. S., Gonzalez de Vallejo L., 2023. Engineering geosciences, geotechnics, and functional geomaterials: new trends on GIS mapping, geotechnologies and design with geohazards, SN Applied Sciences, 5, 1.
57. **Tuğrul A.**, Yılmaz M., Akgündüz S., Dursun G., Avci E., Elçi H., 2023. The importance of structural, sedimentological and geomechanical studies in a marble quarry, VII Global Stone Congress 2023, Batalha, Portugal, 18 - 23 June 2023, pp.36-47.

KEYNOTE/INVITED SPEAKER INTERNATIONAL SYMPOSIUM/CONGRESS

1. Tuğrul, A., 2012, Rehabilitation of Mining Areas and Territory Planning: Engineering Geological Approaches, Recent Activities and Some Examples from Different Areas, Global Stone Congress 2012, 160 July 2012, Alentejo, Portugal. (**Keynote Speaker**).
2. **Tuğrul, A.**, Yılmaz, M., 2013, Evaluation of Different Sandstones for Use as Concrete Aggregate, International Symposium & 9th Asian Regional Conference of IAEG, Global View of Engineering Geology and the Environment, pp. 405-412, 24-25 September 2013, Beijing, China. (**Invited Speaker**).

3. **Tuğrul, A.**, 2016, How to solve Aggregate resource problem in Megacities: An Example from İstanbul, Turkey, 35th International Geological Congress. (**Keynote Speaker**).
4. **Tuğrul A.**, 2018. The State of Aggregates in the World Today. 34th International Geological Congress, Engineering Geology for a Sustainable World, San Francisco, ABD, 15-23 September 2018, pp.42-44. (**Keynote Speaker**)
5. **Tuğrul A., Yılmaz M.**, 2023. Engineering Geology for Reporting Aggregates, The XIV Congress of the International Association for Engineering Geology and the Environment, Chengdu, China, 21 - 27 September 2023, pp.2499-2508 (**Invited Speaker**).

KEYNOTE/INVITED SPEAKER NATIONAL SYMPOSIUM/CONGRESS

1. **Tuğrul, A.**, 2001, Natural Building Stones and their Problems Used in Historic Buildings and Monuments in İstanbul, İ.Ü. Engineering Faculty, 2001-2002 (**Opening Speech**).
2. **Tuğrul, A.**, 2005, Aggregate Reserves and Their Usability in Thrace Region, May 11, 2005, Turkish Aggregate Producers' Association (AGUB) Thrace Sector Meeting, Çorlu (**Invited Speaker**).
3. **Tuğrul, A., Yılmaz, M.**, 2008, Geological parameters affecting rocks' usability as aggregate, I.Ulusal Mermer ve Doğal Taşlar Kongresi Bildiriler Kitabı, 219-231, 1-2 Şubat 2008 / İzmir (**Invited Speaker**).
4. **Tuğrul, A.**, 2009, Aggregate Production and Use, 6th International Marble Natural Stone Products and Technologies Fair, İstanbul (6-7 November 2009). (**Invited Speaker**).
5. **Tuğrul, A.**, 2010, CE signing in Aggregates and Information About Raw Materials, *II. International Marble and Natural Stone Congress Proceedings Book*, s. 335-344, 2-4 Şubat 2010 / İzmir (**Invited Speaker**).
6. **Tuğrul, A., Sönmez, İ., Hasdemir, S., Yılmaz, M.**, 2012, Aggregate Demand in İstanbul's Major Engineering Structures, Current Problems and Solutions. *Proceedings Book of İstanbul's Major Engineering Structures Symposium in Terms of Geological Environment and Environmental Effects*, pp 25, 18-19 January 2012 / İstanbul. (**Invited Speaker**).
7. **Tuğrul, A.**, 2012, The Importance of Aggregate Quality in Earthquake Reality, 27.05.2012, İstanbul Chamber of Commerce, İstanbul (**Invited Speaker**).
8. **Tuğrul, A., Yılmaz, M.**, 2012, Sustainable Usage of Aggregate Resources: İstanbul as an Example, *8th International Marble and Natural Stone Congress Proceedings Book*, pp 13-22, 13-15 October 2012 / Afyon. (**Invited Speaker**)
9. **Tuğrul, A., Yılmaz, M.**, 2013, The Importance of Marble Wastes in Sustainable Usage of Aggregate Resources, *III. International Marble and Natural Stones Congress*, pp 90-91, 5-7 February 2013 / İzmir. (**Invited Speaker**)
10. **Tuğrul, A.**, 2013, Importance of Aggregate Quality, May 7, 2013, Seminar on Importance of Aggregate and its Production, Chamber of Mining Engineers and Mining Engineering Department of İstanbul University, İstanbul University, İstanbul (**Invited Speaker**).
11. **Tuğrul, A.**, 2013, Sustainable Use of Natural Stone Resources, November 28, 2013, Chamber of Geological Engineers İstanbul Branch and Department of Geological Engineering of İstanbul University
12. **Tuğrul, A., Yılmaz, M.**, 2014, Aggregate Resources Planning and Sustainability for İstanbul, *Symposium of İstanbul's Geology 4 Extended Proceedings Book*, pp 15-19, 26-28 October 2014 / İstanbul (**Invited Speaker**).
13. **Tuğrul, A.**, 2014, The Significance of Geological Investigations in Agregate Quarries, May 13, 2014, II. Traditional Geological Week, Chamber of Geological Engineers Kocaeli Branch and Kocaeli University, JeoGenç Group (**Invited Speaker**).

14. **Tuğrul, A.**, Yılmaz, M., 2015, The Importance of Planning in Sustainable Usage of Aggregate Resources, *7th National Crushed Stone Symposium Proceedings Book*, pp 11-22, 5-6 March 2015 / İstanbul (**Invited Speaker**).
15. **Tuğrul, A.**, Yılmaz, M., 2017, The importance of Aggregate Resource Planning for Megacities: An Example of İstanbul, *Proceedings Book of IV. International Stone Congress* pp. 501-506, 20-25 March 2017 / İzmir. (**Invited Speaker**)
16. **Tuğrul, A.**, 2019, UMREK Code and its importance in natural stone mining and valuation of wastes, V. International Stone Congress, İzmir, Turkey, 27 - 30 March 2019, pp.13 (**Invited Speaker**).
17. **Tuğrul, A.**, 2024,

PANELIST

1. VI. Erguvanlı Engineering Geology Colloquium
Subject: Symposium on "International Symposium on Industrial Minerals and Building Stones" and its importance (November 15, 2002).
2. Geology of İstanbul Symposium II, 16-18.12.2005, Kadir Has University.
3. Aggregate Mining in the Context of İstanbul Reconstruction Plans, Problems and Future Developments, IV. National Crushed Stone Symposium, Representative of Chamber of Geological Engineers, December 2, 2006.
4. İstanbul Reconstruction Plans and the Situation of Aggregate Mining. V. National Crushed Stone Symposium, Representative of Chamber of Geological Engineers, December 2, 2009.
5. Aggregate Quality and Its Importance, Turkish Mining Development Foundation, 26th Foundation Week (May 8, 2012)

INTERNATIONAL RESEARCH PROJECTS

- SNAP-SEE Planning Aggregates Supply (2012-2014) EU F7 Project, <http://www.snapsee.eu/>
- "Determination of Geotechnical and Residual Problems of Natural Stone Areas and Development of Block Strengthening Technologies," Department of Environmental Research in General Directorate of MTA. Project Code No 2018-38-14-06, Project Advisors: Prof. Dr. Atiye TUĞRUL, Prof. Dr. Domenico CALCATERRA, Prof. Dr. Piergiulio CAPPELETTI, Dr. Paolo MARONE, Dr. Öğr. Ü. Murat YILMAZ, Erdi AVCI.

MEMBERSHIPS OF ORGANIZING AND SCIENTIFIC COMMITTEES FOR THE INTERNATIONAL AND NATIONAL CONGRESS

INTERNATIONAL

1. "Industrial Minerals and Building Stones," **Member of Organizing Committee** of IAEG Sponsored Symposium (IMBS 2003), İstanbul.
2. I. International Marble and Natural Stone Congress, **Member of Scientific Committee**, 2008, İzmir.
3. II. International Marble and Natural Stone Congress, **Member of Scientific Committee**, 2010, İzmir.
4. "Environmental Geosciences and Engineering Survey for Territory Protection and Population Safety "EngeoPro-2011", International Conference, September 6-8, 2011, **International Advisory Committee**.

5. IESCA, International Earth Science Colloquium, October 1-5, 2012, Usage of Construction Materials, Present and Ancient Time, **Convenor**.
6. International Symposium on Coastal Engineering (IS-Shanghai 2012), September 20-21 2012, **International Advisory Committee**.
7. International Geological Congress, 2016, **Convenor, Aggregate Session**.
8. V. Global Stone Congress, **Co-Chair**, September 22-25 2014.
9. The 11th Asian Regional Conference, 2017 Nepal, Kathmandu, **Member of Scientific Committee**.
10. Natural stone for cultural heritage: local resources with a global impact, Prague (Czech Republic), September 19-22, 2017, **Member of Scientific Committee**.
11. VI. Global Stone Congress, **Member of Advisory Board**, Mayıs 2018.
12. XII. IAEG Congress, 2018, San Francisco, **Convenor, Aggregate Session**.
13. Global Stone Congress 2023-The Seventh Edition, Batalha, Portugal, June 18-23 2023, **Member of Scientific Committee**.
14. XIV IAEG Congress, September 21-27, 2023, Chengdu, China, **Theme 11: Preservation of Cultural Heritage and Engineering Geology Chair**.

NATIONAL

1. Erdoğan Yüzer Symposium on Engineering Geology, **Member of Scientific Committee**. İTÜ Süleyman Demirel Kültür Merkezi, İstanbul, 2007, İstanbul.
2. IV. National Crushed Stone Symposium, 2006, İstanbul, **Member of Advisory Board**.
3. National Symposium on Geology of İstanbul, 2007, İstanbul, **Member of Scientific Committee**.
4. Eroskay Applied Geology Symposium, 2008, İstanbul, **Member of Organizing Committee**.
5. 1st National Marble and Natural Stone Congress, 1-2 Şubat 2008, İzmir, **Scientific Advisory Board Member**.
6. V. National Crushed Stone Symposium, 2009, İstanbul, **Member of Organizing Committee**.
7. Symposium on Modern Practices in Engineering Geology, 25-27 May 2006, Pamukkale Üniversitesi, Denizli, **Member of Scientific Committee**.
8. Symposium on Geology of İstanbul III, 7-9 December 2007, İTÜ Süleyman Demirel Kültür Merkezi, İstanbul, **Member of Scientific Committee**
9. II. International Marble Congress, 2012, **Member of Scientific Advisory Committee**.
10. 63rd Geological Congress of Turkey, 2010, Ankara, **Convenor, Engineering Geology**.
11. 64th Geological Congress of Turkey, Ankara, **Convenor, Engineering Geology**.
12. Attila YALÇIN Borehole Workshop, 31 Ekim-2 Kasım 2011, **Advisory/Scientific Board Member**.
13. National Symposium on 100th year of Geology in İstanbul University, Ekim 2015, **Member of scientific Committee**.
14. International Stone Congress, 20-25 Mart 2017, **Convenor, Aggregate Session**.
15. Marble Congress (MERSEM) 2017, 13-15 Aralık 2017, **Scientific Board Member**.
16. 70th Geological Congress of Turkey, 2017, **Convenor, Construction materials and Natural Stones**.
17. 71th, Geological Congress of Turkey, 2018, **Convenor, Construction materials and Natural Stones**.
18. Cappadocia Geosciences Symposium, 24-26 October 2018, **Member of Scientific Committee**.
19. 12th Regional Rock Mechanics Symposium, 3-5 October 2018, **Member of Scientific Committee**.

20. VI. International Gap Engineering Congress, 8-10 November 2018, **Member of Scientific Committee.**
21. 72nd Geological Congress of Turkey, 2021, Ankara, **Convenor, Construction materials and Natural Stones.**
22. 73rd Geological Congress of Turkey, 2021, Ankara, **Convenor, Construction materials and Natural Stones.**
23. 74th Geological Congress of Turkey, 2022, Ankara, **Convenor, Construction materials and Natural Stones.**
24. 75th Geological Congress of Türkiye, 2023, Ankara, **Convenor**, Session on New Approaches in Mining Resource and Reserve Classification.
25. BETON 2023, Ready Mix Congress and Exhibition, 8-10 November 2023, **Member of Scientific Committee**
26. 76th Geological Congress of Türkiye, 2024, Ankara, **Convenor**, Session on Construction materials and Natural Stones.

CONSULTING

Extensive experience consulting on civil engineering projects (highways, railways, slope stability, and dams) for the public and private sectors in Türkiye. The main expertise fields are Engineering behavior of rocks and rock masses, dimension stones and aggregates, utilizing aggregate and dimension Stone quarry wastes, stability and risk assessment in open pit quarries, geohazards and risk assessment (landslides and rockfalls), and protection of Cultural Heritage sites.