

## Prof. METE TAYANÇ

### Personal Information

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### International Researcher IDs

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### Biography

Lefkoşa, KKTC doğdu ve Türk Maarif Kolejinden 1984 yılında mezun oldu. İstanbul Teknik Üniversitesi Meteoroloji Mühendisliği Bölümünde 1988 yılında lisans, Boğaziçi Üniversitesi Çevre Bilimleri Enstitüsünde 1991 yılında yüksek lisans ve 1995 yılında doktora yaptı. 1995'ten günümüze Marmara Üniversitesi Çevre Mühendisliği Bölümü kadrosunda görev yapmaktadır. 2004-2007 döneminde Marmara Üniversitesi Çevre Mühendisliği Bölümünde Bölüm Başkan Yardımcılığı görevini yürüttü. 2007-2010 yılları arasında Uluslararası Kıbrıs Üniversitesinde Mühendislik Fakültesi Dekanlığı yaptı. 2007 yılından 2013 yılına TÜBİTAK Çevre, Atmosfer, Yer ve Deniz Bilimleri Araştırma Grubu (ÇAYDAG) yürütme komitesi üyesi olarak görev yaptı. Bugüne kadar, SCI indeksindeki uluslararası hakemli dergilerde, konferans/sempozyumlarda ve kitap bölümlerinde çok sayıda çalışması yayımlanmıştır. Esas olarak Marmara Üniversitesi BAPKO ve TÜBİTAK olmak üzere çeşitli projelerde yürütücü ve araştırmacı olarak çalıştı. Halen hava kirliliği, atmosferik modelleme, iklim değişikliği gibi çevre ve atmosfer bilimleri alanlarında çalışmalar sürdürmektedir.

### Education Information

Doctorate, Bogazici University, Institute Of Environmental Sciences, Department Of Environmental Sciences, Turkey 1991 - 1995

Postgraduate, Bogazici University, Institute Of Environmental Sciences, Department Of Environmental Sciences, Turkey 1989 - 1991

Undergraduate, Istanbul Technical University, Uçak Ve Uzay Bilimleri, Meteoroloji Mühendisliği, Turkey 1984 - 1988

### Foreign Languages

English, C1 Advanced

### Dissertations

Doctorate, Detecting climate in Turkey : an investigation of urban effects, Boğaziçi Üniversitesi, Çevre Bilimleri Enstitüsü, Çevre Bilimleri Anabilim Dalı, 1995

## Research Areas

Atmospheric Sciences and Meteorological Engineering, Environmental Engineering, Environmental Technology, Environmental Modeling, Air Pollution and Control, Engineering and Technology

## Academic Titles / Tasks

Professor, Marmara University, Faculty of Engineering, Environmental Engineering, 2003 - Continues  
Associate Professor, Marmara University, Faculty of Engineering, Environmental Engineering, 1999 - 2003  
Assistant Professor, Marmara University, Faculty of Engineering, Environmental Engineering, 1997 - 1999  
Lecturer PhD, Marmara University, Faculty of Engineering, Environmental Engineering, 1995 - 1997

## Advising Theses

TAYANÇ M., Uzaketkileşim paternlerinin Türkiye ikliminde ekstrem etkileri, Postgraduate, T.Hajılı(Student), 2017  
TAYANÇ M., İstanbul'da yaş ve bulk birikim kompozisyonunun değişik ölçeklerde incelenmesi, Doctorate, B.Oktay(Student), 2003

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

- I. **Recent Climate Change in Western Black Sea Region of Turkey by Paleoclimatic Reconstruction of Borehole Temperatures**  
Çelik B., ERKAN K., TAYANÇ M., Baltacı H., Akkoyunlu B., PAZVANTOĞLU E.  
Pure and Applied Geophysics, vol.180, no.10, pp.3607-3620, 2023 (SCI-Expanded)
- II. **Distribution and sources of SVOCs in fine and coarse aerosols in the megacity of Istanbul**  
FLORES RANGEL R. M., Özdemir H., Ünal A., TAYANÇ M.  
Atmospheric Research, vol.271, 2022 (SCI-Expanded)
- III. **A holistic approach to the air quality of Konya City, Turkey**  
TAYANÇ M., Sezen İ., Ünal A., FLORES RANGEL R. M., Karanfil S.  
Air Quality, Atmosphere and Health, vol.15, no.6, pp.951-965, 2022 (SCI-Expanded)
- IV. **Dried bottom of Urmia Lake as a new source of dust in the northwestern Iran: Understanding the impacts on local and regional air quality**  
Ghale Y. A. G., TAYANÇ M., Ünal A.  
ATMOSPHERIC ENVIRONMENT, vol.262, 2021 (SCI-Expanded)
- V. **Surface heat flow in bestern Anatolia (Turkey) and implications to the thermal structure of the Gediz Graben**  
Balkan-Pazvantoglu E., ERKAN K., ŞALK M., AKKOYUNLU B. O., TAYANÇ M.  
TURKISH JOURNAL OF EARTH SCIENCES, vol.30, pp.991-1007, 2021 (SCI-Expanded)
- VI. **Seasonal variation of carbonaceous PM2.5 in an Istanbul traffic site**  
Flores R. M., Ozdemir H., AKKOYUNLU B. O., Ünal A., TAYANÇ M.  
ATMOSPHERIC POLLUTION RESEARCH, vol.11, no.12, pp.2110-2118, 2020 (SCI-Expanded)
- VII. **Development of Nonlinear Optimization Models for Wind Power Plants Using Box-Behnken Design of Experiment: A Case Study for Turkey**  
Atalan Y. A., TAYANÇ M., ERKAN K., Atalan A.  
SUSTAINABILITY, vol.12, no.15, 2020 (SCI-Expanded)
- VIII. **A high-time resolution study of PM2.5, organic carbon, and elemental carbon at an urban traffic site in Istanbul**  
FLORES RANGEL R. M., Mertoglu E., ÖZDEMİR H., AKKOYUNLU B. O., Demir G., Ünal A., TAYANÇ M.  
ATMOSPHERIC ENVIRONMENT, vol.223, 2020 (SCI-Expanded)
- IX. **Wind speed variability and wind power potential over Turkey: Case studies for Çanakkale and**

## **İstanbul**

Arslan H., Baltacı H., AKKOYUNLU B. O., Karanfil S., TAYANÇ M.  
Renewable Energy, vol.145, pp.1020-1032, 2020 (SCI-Expanded)

- X. **Twentieth-century paleoclimatic modeling of borehole temperatures in western and central Anatolia regions, Turkey**  
ERKAN K., Akkoyunlu B., Inal M. O., Balkan-Pazvantoglu E., TAYANÇ M.  
INTERNATIONAL JOURNAL OF EARTH SCIENCES, vol.108, no.4, pp.1137-1146, 2019 (SCI-Expanded)
- XI. **Atmospheric conditions of extreme precipitation events in western Turkey for the period 2006-2015**  
AKKOYUNLU B. O., Baltacı H., TAYANÇ M.  
NATURAL HAZARDS AND EARTH SYSTEM SCIENCES, vol.19, no.1, pp.107-119, 2019 (SCI-Expanded)
- XII. **Relationships between teleconnection patterns and Turkish climatic extremes**  
Baltacı H., Akkoyunlu B. O., Tayanc M.  
THEORETICAL AND APPLIED CLIMATOLOGY, vol.134, pp.1365-1386, 2018 (SCI-Expanded)
- XIII. **An Extreme Hailstorm on 27 July 2017 in Istanbul, Turkey: Synoptic Scale Circulation and Thermodynamic Evaluation**  
Baltacı H., AKKOYUNLU B. O., TAYANÇ M.  
PURE AND APPLIED GEOPHYSICS, vol.175, no.11, pp.3727-3740, 2018 (SCI-Expanded)
- XIV. **A portable borehole temperature logging system using the four-wire resistance method**  
ERKAN K., Akkoyunlu B., BALKAN E., TAYANÇ M.  
JOURNAL OF GEOPHYSICS AND ENGINEERING, vol.14, no.6, pp.1413-1419, 2017 (SCI-Expanded)
- XV. **Long-Term Variations of Temperature and Precipitation in the Megacity of Istanbul for the Development of Adaptation Strategies to Climate Change**  
Toros H., Abbasnia M., SAĞDIÇ M., TAYANÇ M.  
ADVANCES IN METEOROLOGY, 2017 (SCI-Expanded)
- XVI. **DESIGN AND CONSTRUCTION OF A COMPUTER CONTROLLED AUTOMATIC SEQUENTIAL RAIN SAMPLER**  
AKKOYUNLU B. O., DOĞRUEL M., TAYANÇ M., Oruc I.  
BIOTECHNOLOGY & BIOTECHNOLOGICAL EQUIPMENT, vol.27, no.3, pp.3890-3895, 2013 (SCI-Expanded)
- XVII. **Analysis of surface ozone and nitrogen oxides at urban, semi-rural and rural sites in Istanbul, Turkey**  
Im U., Incecik S., Guler M., Tek A., Topcu S., Ünal Y., YENİGÜN O., Kindap T., Odman M. T., TAYANÇ M.  
SCIENCE OF THE TOTAL ENVIRONMENT, vol.443, pp.920-931, 2013 (SCI-Expanded)
- XVIII. **Quantification of the urban heat island under a changing climate over Anatolian Peninsula**  
ÖZDEMİR H., Ünal A., Kindap T., Turuncoglu U. U., Durmusoglu Z. O., Khan M., Tayanc M., Karaca M.  
THEORETICAL AND APPLIED CLIMATOLOGY, vol.108, pp.31-38, 2012 (SCI-Expanded)
- XIX. **The impact of anthropogenic and biogenic emissions on surface ozone concentrations in Istanbul**  
Im U., Poupkou A., Incecik S., Markakis K., Kindap T., Ünal A., Melas D., Yenigun O., Topcu S., Odman M. T., et al.  
SCIENCE OF THE TOTAL ENVIRONMENT, vol.409, no.7, pp.1255-1265, 2011 (SCI-Expanded)
- XX. **Climate change in Turkey for the last half century**  
Tayanc M., Im U., DOĞRUEL M., Karaca M.  
CLIMATIC CHANGE, vol.94, pp.483-502, 2009 (SCI-Expanded)
- XXI. **Interaction patterns of major photochemical pollutants in Istanbul, Turkey**  
Im U., TAYANÇ M., YENİGÜN O.  
ATMOSPHERIC RESEARCH, vol.89, no.4, pp.382-390, 2008 (SCI-Expanded)
- XXII. **Four storms with sub-events: Sampling and analysis**  
Akkoyunlu B. O., TAYANÇ M.  
ENVIRONMENT INTERNATIONAL, vol.34, no.5, pp.606-612, 2008 (SCI-Expanded)
- XXIII. **SO<sub>2</sub> modeling in Izmit Gulf, Turkey during the winter of 1997: 3 cases**  
Tayanc M., Bercin A.  
ENVIRONMENTAL MODELING & ASSESSMENT, vol.12, no.2, pp.119-129, 2007 (SCI-Expanded)
- XXIV. **Analysis of major photochemical pollutants with meteorological factors for high ozone days in**

## **Istanbul, Turkey**

Im U., Tayanc M., Yenigun O.

WATER AIR AND SOIL POLLUTION, vol.175, pp.335-359, 2006 (SCI-Expanded)

- XXV. **Analyses of wet and bulk deposition in four different regions of Istanbul, Turkey**  
Akkoyunlu B. O., Tayanc M.  
ATMOSPHERIC ENVIRONMENT, vol.37, no.25, pp.3571-3579, 2003 (SCI-Expanded)
- XXVI. **Composition of wet deposition in Kaynarca, Turkey**  
Okay C., Akkoyunlu B. O., Tayanc M.  
ENVIRONMENTAL POLLUTION, vol.118, no.3, pp.401-410, 2002 (SCI-Expanded)
- XXVII. **Cyclone track variability over Turkey in association with regional climate**  
Karaca M., Deniz A., Tayanc M.  
INTERNATIONAL JOURNAL OF CLIMATOLOGY, vol.20, no.10, pp.1225-1236, 2000 (SCI-Expanded)
- XXVIII. **An assessment of spatial and temporal variation of sulfur dioxide levels over Istanbul, Turkey**  
Tayanc M.  
ENVIRONMENTAL POLLUTION, vol.107, no.1, pp.61-69, 2000 (SCI-Expanded)
- XXIX. **Chemical analyses of the major ions in the precipitation of Istanbul, Turkey**  
Gulsoy G., Tayanc M., Erturk F.  
ENVIRONMENTAL POLLUTION, vol.105, no.2, pp.273-280, 1999 (SCI-Expanded)
- XXX. **March 1987 cyclone (blizzard) over the eastern Mediterranean and Balkan region associated with blocking**  
Tayanc M., Karaca M., Dalfes H.  
MONTHLY WEATHER REVIEW, vol.126, no.11, pp.3036-3047, 1998 (SCI-Expanded)
- XXXI. **A comparative assessment of different methods for detecting inhomogeneities in Turkish temperature data set**  
Tayanc M., Dalfes H., Karaca M., Yenigun O.  
INTERNATIONAL JOURNAL OF CLIMATOLOGY, vol.18, no.5, pp.561-578, 1998 (SCI-Expanded)
- XXXII. **Urbanization effects on regional climate change in the case of four large cities of Turkey**  
Tayanc M., Toros H.  
CLIMATIC CHANGE, vol.35, no.4, pp.501-524, 1997 (SCI-Expanded)
- XXXIII. **Annual and seasonal air temperature trend patterns of climate change and urbanization effects in relation to air pollutants in Turkey**  
Tayanc M., Karaca M., Yenigun O.  
JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES, vol.102, pp.1909-1919, 1997 (SCI-Expanded)
- XXXIV. **EFFECTS OF URBANIZATION ON CLIMATE OF ISTANBUL AND ANKARA**  
KARACA M., TAYANC M., TOROS H.  
ATMOSPHERIC ENVIRONMENT, vol.29, no.23, pp.3411-3421, 1995 (SCI-Expanded)

## **Articles Published in Other Journals**

- I. **Chemical Analysis of Wet Deposition Sequential Samples at Istanbul, Turkey**  
ORUÇ İ., AKKOYUNLU B. O., DOĞRUEL M., TAYANÇ M.  
International Journal of Engineering Research and Development, 2018 (Peer-Reviewed Journal)
- II. **Ion Concentrations And Sources Of Sequential Sampling Of Wet Deposition In Istanbul, Turkey**  
ORUÇ İ., AKKOYUNLU B. O., DOĞRUEL M., TAYANÇ M.  
Uluslararası Muhendislik Arastırma ve Gelistirme Dergisi, vol.9, no.2, pp.131-136, 2017 (Peer-Reviewed Journal)

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

- I. **Surface Heat Flow in Western Anatolia (Turkey) and implications to the thermal structure of the**

## **Gediz Graben**

PAZVANTOĞLU E., ERKAN K., TAYANÇ M., AKKOYUNLU B. O., ŞALK M.

International Workshop On Geothermal Energy For Sustainable Development, 08 December 2021

- II. **Ion composition of the daily PM10 samples collected at Kirklareli Turkey**  
Çetin B., Saka E. H., Cicerali M. F., ORUÇ H. N., FLORES RANGEL R. M., AKKOYUNLU B. O., TAYANÇ M.  
18th World Clean Air Congress, 23 - 27 September 2019, pp.72
- III. **Integrated air quality assessment of Konya in terms of meteorology, topography and emission sources**  
TAYANÇ M., SEZEN İ., AKYÜZ E., KAYNAK TEZEL B., BAYKARA M., ÜNAL A.  
18th World Clean Air Congress 2019, 23 - 27 September 2019
- IV. **A STUDY OF METALIC COMPOSITION IN THE DAILY PM2.5 SAMPLES AT KIRKLARELI, TURKEY**  
N ORUÇ H., ÖZDEMİR H., FLORES RANGEL R. M., SEZEN İ., AKKOYUNLU B. O., DEMİR G., ÜNAL A., TAYANÇ M.  
18th WORLD CLEAN AIR CONGRESS 2019, 23 - 27 September 2019
- V. **Seasonality of PM 2.5 and its organic fraction in a traffic site in Besiktas, Istanbul**  
FLORES RANGEL R. M., MERTOĞLU E., ÖZDEMİR H., AKKOYUNLU B. O., ÜNAL A., TAYANÇ M.  
18th World Clean Air Congress 2019, 23 - 27 September 2019
- VI. **Diurnal and seasonal variations of primary and secondary organic carbon at an urban traffic site in Istanbul**  
FLORES RANGEL R. M., Mertoglu E., Pursa A., Özdemir H., AKKOYUNLU B. O., DEMİR G., ÜNAL A., TAYANÇ M.  
European Geophysical Union General Assembly 2019, 7 - 12 April 2019
- VII. **Spatiotemporal Variability and Trends of Snowfall in Turkey**  
BALTACI H., AKKOYUNLU B. O., TAYANÇ M.  
11th International Statistics Days Conference, Muğla, Turkey, 3 - 07 October 2018, pp.279
- VIII. **DISTRIBUTION OF SVOCs IN FINE AND COARSE PARTICULATE MATTER IN A TRAFFIC SITE IN THE MEGACITY OF ISTANBU**  
FLORES RANGEL R. M., Özdemir H., AKKOYUNLU B. O., ÜNAL A., TAYANÇ M.  
18th World Clean Air Congress, Istanbul, Turkey, 23-27 September 2019, 23 September - 27 January 2019
- IX. **The Influence of Weather-Type on PM10 Levels in Western Turkey**  
BALTACI H., AKKOYUNLU B. O., TAYANÇ M.  
1st Eurasia Environmental Chemistry Congress, Antalya, Turkey, 1 - 04 November 2018, pp.38
- X. **PM 2.5 Analysis and the Determination of PAH Constituents at a Densely Populated Area of Istanbul**  
FLORES RANGEL R. M., özdemir h., AKKOYUNLU B. O., DEMİR G., ÜNAL A., TAYANÇ M.  
10th Better Air Quality Conference 2018, 14 - 16 November 2018
- XI. **Characterization of Semi-Volatile Organic Compounds in Fine Atmospheric Particles**  
Mertoglu E., FLORES RANGEL R. M., Pursa A., Özdemir H., AKKOYUNLU B. O., DEMİR G., ÜNAL A., TAYANÇ M.  
3rd International Mediterranean Science and Engineering Congress, 24 - 26 October 2018
- XII. **EGE BÖLGESİNDE JEOTERMAL GRADYAN DAĞILIMI**  
BALKAN E., ERKAN K., ŞALK M., AKKOYUNLU B. O., TAYANÇ M.  
ULUSLARARASI KATILIMLITÜRKİYE ULUSAL JEODEZİ VE JEOFİZİK BİRLİĞİ BİLİMSEL KONGRESİ, İzmir, Turkey, 30 May - 02 June 2018
- XIII. **Diurnal Variation of Semi-Volatile Organic Compounds associated to PM2.5 in a traffic-influenced area in Istanbul**  
FLORES RANGEL R. M., Nafie Y., Mertoglu E., Özdemir H., AKKOYUNLU B. O., DEMİR G., ÜNAL A., TAYANÇ M.  
European Geophysical Union General Assembly 2018, 8 - 13 April 2018
- XIV. **ISI AKISI ÖLÇÜMLERİ İLE ORTA ANADOLU'DA ÖRTÜLÜ JEOTERMAL SAHALARIN BELİRLENMESİ**  
ERKAN K., BALKAN E., AKKOYUNLU B. O., TAYANÇ M.  
V. Jeotermal Kaynaklar ve Doğal Mineralli Sular Sempozyumu ve Sergisi, Afyon, Turkey, 21 - 24 February 2018
- XV. **INVESTIGATION OF CLIMATE CHANGE IN TURKEY BY FOURIER HARMONICS**  
AKKOYUNLU B. O., BALTACI H., DOĞRUEL M., TAYANÇ M.  
1st International Turkish World Engineering and Science Congress, 7 - 10 December 2017
- XVI. **TURKIYE'DE GUNCEL IKLİM DEĞİŞİKLİĞİ**

TAYANÇ M., EREN E., DİKMEN AYDIN Y., BALTACI H., GÖKTÜRK O. M., ERKAN K., AKKOYUNLU B. O.  
VII. ULUSAL HAVA KİRLİLİĞİ VE KONTROLÜ SEMPOZYUMU, Antalya, Turkey, 1 - 03 November 2017, pp.17-23

- XVII. **The Relationship between Climate Extremes and Teleconnection Patterns over Turkey**  
Hacılı T., Baltacı H., AKKOYUNLU B. O., TAYANÇ M.  
International Sustainability Congress, 1-3 December 2016, 1 - 03 December 2016
- XVIII. **Climate Classification by Signal Processing A Case Study for Turkey**  
AKKOYUNLU B. O., DOĞRUEL M., TAYANÇ M.  
8th International Conference on Image Processing, Wavelet and Applications (IWW2016), İstanbul, Turkey, 22 - 24 September 2016
- XIX. **Fourier Transform of Temperature Series in Detecting Climate Change**  
AKKOYUNLU B. O., DOĞRUEL M., TAYANÇ M.  
8th International Conference on Image Processing, Wavelet and Applications (IWW2016), İstanbul, Turkey, 22 - 24 September 2016
- XX. **20th Century Climatic Changes in Western Turkey from Borehole Climatologic Records**  
ERKAN K., TAYANÇ M., AKKOYUNLU B. O., DOĞRUEL M., İnal M. O., BALKAN E.  
8th International Conference on Image Processing, Wavelet and Applications (IWW2016), İstanbul, Turkey, 22 - 24 September 2016
- XXI. **Modeling of Industrial SO<sub>2</sub> Emissions and Tubras Fire Released During 1999 Earthquake in Gebze-Koceli Turkey.**  
AKKOYUNLU B. O., TAYANÇ M.  
13th World Clean Air and Environmental Protection Congress and Exhibition, 22 - 27 August 2004
- XXII. **Statistical Analyses of Wet and Bulk Deposition on Different Regions of Istanbul Turkey**  
AKKOYUNLU B. O., TAYANÇ M.  
13th World Clean Air and Environmental Protection Congress and Exhibition, 22 - 27 August 2004
- XXIII. **Investigation of the Variability SO<sub>2</sub> and PM in the Large City of Turkey.**  
AKKOYUNLU B. O., TAYANÇ M., GARİPAĞAOĞLU N.  
International Technical Meeting on Air Pollution Modeling and Its Applications., 28 - 30 May 2003
- XXIV. **ANALYSIS OF WET AND BULK DEPOSITION IN FOUR DIFFERENT REGIONS OF İSTANBUL, TURKEY**  
AKKOYUNLU B. O., TAYANÇ M.  
", AGRO-ENVİRON 2002, 3RD INTERNATIONAL SYMPOSIUM ON SUSTAINABLE AGRO-ENVIRONMENTAL SYSTEMS: NEW TECHNOLOGIES AND APPLICATIONS, CAIRO, EGYPT, 26-29 OCTOBER (2002) , 107., 26 - 29 October 2002

## Metrics

Publication: 82

Citation (WoS): 905

Citation (Scopus): 951

H-Index (WoS): 17

H-Index (Scopus): 16

## Non Academic Experience

Marmara Üniversitesi