

## **Asst. Prof. ROSA MARIA FLORES RANGEL**

### **Personal Information**

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### **Biography**

Rosa Flores is an assistant professor at Marmara University in Istanbul, Turkey. Her research focuses on chemical characterization of organic and inorganic species in both the aerosol- and gas-phases. She has a particular interest on method development and the use of advanced techniques to improve our understanding of organic aerosol transformation at high time resolution. She enjoys teaching, writing, and having long walks in the forest, although her favorite spot is the beach.

### **Education Information**

Doctorate, Michigan Technological University, United States Of America 2008 - 2013

Postgraduate, CICATA-IPN Altamira, Mexico 2004 - 2006

Undergraduate, Instituto Tecnológico de Ciudad Madero, Mexico 1998 - 2002

### **Dissertations**

Doctorate, Terpene and Terpenoid Emissions and Secondary Organic Aerosol Production, Michigan Technological University, 2013

Postgraduate, Metals in Particulate Matter PM10 Suspended in the Air of Southern Tamaulipas During 2004, CICATA-IPN Altamira, 2006

### **Research Areas**

Atmospheric Sciences and Meteorological Engineering, Environmental Engineering, Engineering and Technology

### **Academic Titles / Tasks**

Assistant Professor, Marmara University, Faculty Of Engineering, Environmental Engineering, 2014 - Continues

### **Advising Theses**

FLORES RANGEL R. M. , Characterization of semi volatile organic compounds in fine atmospheric particles, Postgraduate, E.Mertoğlu(Student), 2019

### **Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes**

- I. **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 (Journal Indexed in SCI Expanded)
- II. **Chemical characterization of water-soluble ions in highly time-resolved atmospheric fine particles in Istanbul megacity**  
Flores Rangel R. M.  
ENVIRONMENTAL POLLUTION (1970), vol.1, no.1, pp.1-3, 2022 (Journal Indexed in 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, 2022 (Journal Indexed in SCI)
- IV. **Vapor- and aerosol-phase atmospheric organic matter in urban air of the Midwest USA**  
Flores R. M. , Doskey P. V.  
Atmospheric Environment, vol.264, 2021 (Journal Indexed in SCI Expanded)
- V. **Characterization and ozone formation potential (OFP) of non-methane hydrocarbons under the condition of chemical loss in Guangzhou, China**  
Zou Y., Charlesworth E., Wang N., Flores R. M. , Liu Q. Q. , Li F., Deng T., Deng X. J.  
Atmospheric Environment, vol.262, 2021 (Journal Indexed in 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 (Journal Indexed in SCI)
- VII. **Optimization of a thermal desorption-gas chromatography/mass spectrometry method for characterization of semi-volatile organic compounds in high time resolved PM2.5**  
FLORES RANGEL R. M. , Mertoglu E.  
ATMOSPHERIC POLLUTION RESEARCH, vol.11, no.3, pp.619-629, 2020 (Journal Indexed in SCI)
- 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 (Journal Indexed in SCI)
- IX. **The effect of mineral dust transport on PM10 concentrations and physical properties in Istanbul during 2007-2014**  
Flores R. M. , Kaya N., Eser O., Saltan S.  
ATMOSPHERIC RESEARCH, vol.197, pp.342-355, 2017 (Journal Indexed in SCI)
- X. **Sources of trace metals in PM10 from a petrochemical industrial complex in Northern Mexico**  
Rodriguez-Espinosa P. F. , Flores-Rangel R. M. , Mugica-Alvarez V., Morales-Garcia S. S.  
AIR QUALITY ATMOSPHERE AND HEALTH, vol.10, no.1, pp.69-84, 2017 (Journal Indexed in SCI)
- XI. **Evaluation of multistep derivatization methods for identification and quantification of oxygenated species in organic aerosol**  
FLORES RANGEL R. M. , Doskey P. V.  
Journal Of Chromatography A, vol.1418, pp.1-11, 2015 (Journal Indexed in SCI Expanded)
- XII. **Temporal variation of PM10 and metal concentrations in Tampico Mexico**  
FLORES RANGEL R. M. , RodriguezEspinosa P., Montes de Oca J., Mugica V., OrtizRomero M., Navarrete M., Dorantes H., Morales S.  
Air Quality Atmosphere and Health, vol.8, pp.367-378, 2015 (Journal Indexed in SCI Expanded)
- XIII. **Estimating terpene and terpenoid emissions from conifer oleoresin composition**  
FLORES RANGEL R. M. , Doskey P. V.  
Atmospheric Environment, vol.113, pp.32-40, 2015 (Journal Indexed in SCI Expanded)
- XIV. **Using multidimensional gas chromatography to group secondary organic aerosol species by functionality**  
FLORES RANGEL R. M. , Doskey P. V.  
Atmospheric Environment, vol.96, pp.310-321, 2014 (Journal Indexed in SCI Expanded)
- XV. **Metal Content in Air Samples Collected in an Urban Zone in Tampico México A First Survey**

FLORES RANGEL R. M. , Rodriguez P., Montes de Oca J., Mugica V., OrtizRomeroVargas E., NavarreteLopez M., Hector D.

Human And Ecological Risk Assessment, vol.13, pp.1359-1372, 2007 (Journal Indexed in SCI Expanded)

## Articles Published in Other Journals

### I. General Assessment of PM10 And SO2 in Ağrı

KARA Y., ÇİVİCİ M., KARTUM U., FLORES RANGEL R. M.

International Journal of Advances in Engineering and Pure Sciences, vol.34, pp.1-2, 2022 (International Refereed University Journal)

### II. Representation of the Diurnal Distribution of Organic Aerosol by Multidimensional Liquid Chromatography Systems

Mertoglu E., Flores Rangel R. M.

International Journal of Advances in Engineering and Pure Sciences, vol.33, no.2, pp.277-286, 2021 (International Refereed University Journal)

## Refereed Congress / Symposium Publications in Proceedings

### I. Evaluation of Multidimensional Liquid Chromatography Systems to Model Separation and Evolution of Organic Aerosol in the Atmosphere

FLORES RANGEL R. M.

2.International Environmental Chemistry Congress, 31 October - 03 November 2019, pp.22

### II. Ion composition of the daily PM10 samples collected at Kırklareli 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. 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

### IV. 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

### V. 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

### VI. 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

### VII. Study of Particulate Matter in Kırklareli, Turkey with Meteorological Factors

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

### VIII. 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

### IX. PM2.5 Analysis and the Determination of PAH Constituents at a Densely Populated Area of Istanbul

FLORES RANGEL R. M. , ÖZDEMİR H., AKKOYUNLU B. O. , DEMİR G., ÜNAL A., TAYANÇ M.

10th Better Air Quality Conference 2018, 14 - 16 November 2018

### X. 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

- XI. **Diurnal Variation of Semi-Volatile Organic Compounds associated to PM<sub>2.5</sub> 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
- XII. **EVALUATION OF A THERMAL DESORPTION METHOD FOR COMPLETE CHARACTERIZATION OF ORGANIC AEROSOLS**  
GÖK A. E. , FLORES RANGEL R. M. , ÖZDEMİR H., AKKOYUNLU B. O. , DEMİR G., ÜNAL A., TAYANÇ M.  
8th Atmospheric Sciences Symposium, 1 - 04 November 2017
- XIII. **Contribution of desert dust transport to daily PM<sub>10</sub> concentrations in Aksaray, Istanbul: A long term study**  
FLORES RANGEL R. M. , Kaya N., Eser O., Saltan S.  
International workshop on Middle East Dust Sources and Impacts, 23 - 25 October 2017
- XIV. **Semi-volatile Organic Aerosol Composition in High-Time Resolved Ambient Air PM<sub>2.5</sub> Samples: Preliminary Results**  
Gök A., FLORES RANGEL R. M. , ÖZDEMİR H., AKKOYUNLU B. O. , DEMİR G., TAYANÇ M.  
2nd INTERNATIONAL CONFERENCE ON CIVIL AND ENVIRONMENTAL ENGINEERING, 8 - 10 May 2017, pp.2998
- XV. **Temporal Variation of PM<sub>10</sub> concentration and properties in Istanbul 2007-2015**  
FLORES RANGEL R. M. , Kaya N., Eser O., Saltan S.  
Geophysical Union General Assembly 2017, 23 - 28 April 2017
- XVI. **Diurnal Variation of Organic Aerosol in Urban East St Louis II**  
FLORES RANGEL R. M. , Doskey P.  
VII Atmospheric Science Symposium, 28 - 30 April 2015, vol.1
- XVII. **My Experience during the Ph D at Michigan Technological University**  
FLORES RANGEL R. M.  
Invited talk at CIEEMAD-IPN National Polytechnic Institute, Mexico, 10 - 11 September 2013
- XVIII. **Studies of Air Quality Atmospheric Organic Matter in the Midwestern United States Methods and Measurements**  
FLORES RANGEL R. M.  
Invited talk at CIEEMAD-IPN National Polytechnic Institute, Mexico, 10 - 11 September 2013
- XIX. **Managing the complexity of secondary organic aerosol species produced by forest emissions with GC 2GC**  
FLORES RANGEL R. M. , Perlinger J., Doskey P.  
8th Annual ESC/BRC Graduate Research Forum at Michigan Tech, Turkey, 30 March 2012
- XX. **On Line supercritical fluid extraction with gas chromatographic mass spectrometric analysis of Biogenic SOA**  
FLORES RANGEL R. M. , Perlinger J., Doskey P.  
7th Annual ESC/BRC Graduate Research Forum at Michigan Tech, Turkey, 25 March 2011
- XXI. **Estimates of total molecular polarity to evaluate atmospheric evolution of organic aerosol**  
Perlinger J., Doskey P., FLORES RANGEL R. M. , Zhang B., Murray K.  
European Geophysical Union 2011, 3 - 08 April 2011
- XXII. **Supercritical fluid extraction of biogenic SOA in Northern Michigan**  
FLORES RANGEL R. M. , Doskey P., Perlinger J.  
2010 American Geophysical Union Fall Meeting, 13 - 17 December 2010
- XXIII. **Description of organic aerosol diagenesis with a GC 2GC retention diagram**  
FLORES RANGEL R. M. , Zhang B., Murray K.  
2011 American Geophysical Union Fall Meeting, 5 - 09 December 2010
- XXIV. **Quantification of terpenes by 1DGC MS and 2DGC TOF MS**  
FLORES RANGEL R. M. , Perlinger J., Doskey P.  
6th Annual ESC/BRC Graduate Research Forum at Michigan Tech, Turkey, 27 - 23 March 2010

- XXV. **Identification of terpenes and sesquiterpenes by 1DGC MS and 2DGC TOF MS**  
 FLORES RANGEL R. M. , Perlinger J., Doskey P.  
 2009 American Geophysical Union Fall Meeting, 13 - 17 December 2009
- XXVI. **Analysis of Mn Pb and Ni in PM10 in Tampico during 2004**  
 FLORES RANGEL R. M.  
 II Congreso Nacional Estudiantil de Invesstigacion (II National Conference for Science Students) at CICATA-IPN-Queretaro, Mexico, 17 - 19 October 2007
- XXVII. **Geographic information system applied to urban aerosols in Altamira Mexico**  
 FLORES RANGEL R. M. , Pedro R., Montes de Oca J., Mugica V., Ortiz E.  
 100th Annual Conference and Exhibition of the Air and Waste Management Association, 26 - 29 June 2007, vol.6
- XXVIII. **Application of receptor models for the identification of metal sources in Tampico Mexico 2007**  
 FLORES RANGEL R. M. , Rodriguez P., Montes de OCa J., Mugica V., Ortiz E.  
 2007 American Geophysical Union Spring Meeting, 22 - 25 May 2007
- XXIX. **Metal distribution in PM10 during the MILAGRO campaign in Tamaulipas Mexico**  
 Rodriguez P., FLORES RANGEL R. M. , Montes de Oca J., Mugica V., Ortiz E.  
 2nd MILAGRO Science Conference Meeting, 15 - 18 May 2007
- XXX. **Metal Content in Tampico TamaulipasEvaluacion del contenido de metales en PM10 en Tampico Tamaulipas**  
 FLORES RANGEL R. M. , Rodriguez P., Montes de Oca J., Mugica V., Ortiz E.  
 VI Simposio de Contaminación Atmosférica, 17 - 19 April 2007
- XXXI. **Air Quality Criteria in Tampico Preliminary Results**  
 FLORES RANGEL R. M.  
 Simposio Sobre Medio Ambiente en la Zona Conurbada del Sur de Tamaulipas, Mexico, 13 July 2006
- XXXII. **Geographic Information System Applied to Urban Aerosols in Altamira Mexico**  
 Violeta M., Ortiz E., FLORES RANGEL R. M. , Rodriguez P., Montes de Oca J.  
 100th Annual Conference and Exhibition of the Air and Waste Management Association, 26 June 2007 - 29 June 2006
- XXXIII. **Metals in PM10 suspended in the atmosphere of Tampico Metales en Material Particulado Menor a 10 m PM10 Suspendido en la Atmósfera de Tampico**  
 FLORES RANGEL R. M.  
 II congreso de Ecotoxicología y Química Ambiental, Puebla, Mexico, 28 April 2006
- XXXIV. **Air Quality Criteria Criterios de Calidad del Aire**  
 FLORES RANGEL R. M.  
 Invited talk to Asociation of Professionists at National Polytechnic Institute (Asociación de Profesionistas del Instituto Politécnico Nacional Tampico, A.C), Mexico, 10 February 2006
- XXXV. **Metals in Patticulate matter smaller than 10um in Tampico**  
 FLORES RANGEL R. M.  
 Invited Talk at Youth Simposium on Environment 2005 (Cumbre Juvenil Ambiental 2005), Mexico, 13 - 14 December 2005
- XXXVI. **Metals in Particulate Matter smaller than 10um PM10 Suspended in the Atmosphere of Tampico**  
 FLORES RANGEL R. M.  
 First National Conference of Science Students, IPN, Mexico, 12 - 14 September 2005
- XXXVII. **Metals in Sdimented Particulate Matter smaller than 10 um in Tampico**  
 FLORES RANGEL R. M.  
 II National Conference of Geoscience Engineering, Cd. Madero, Tamps., Mexico, 17 May 2005

## Supported Projects

Flores Rangel R. M. , TÜBİTAK - AB COST Project, Chemical composition of high-time resolved fine aerosol (PM2.5) in Istanbul, 2019 - 2022

Flores Rangel R. M. , Project Supported by Higher Education Institutions, Characterization and source apportionment of organic aerosol in Istanbul atmosphere: Beşiktaş case study, 2018 - 2020

Flores Rangel R. M. , Project Supported by Higher Education Institutions, Characterization of Semi-Volatile Organic Compounds in Fine Atmospheric Particles, 2018 - 2020

Flores Rangel R. M. , Akkoyunlu B. O. , TUBITAK Project, The Particulate matter and bulk accumulation study in Kirklareli: Evaluation of pollutant pollution in urban and rural areas by statistics and physical models, 2017 - 2020

Flores Rangel R. M. , TUBITAK Project, Investigation of PM<sub>2.5</sub> and hourly volatile organic compounds in atmospheric aerosols, 2016 - 2019

Flores Rangel R. M. , TUBITAK Project, Using multidimensional liquid chromatography (2D-LC) systems to model separation and represent evolution of organic aerosol, 2017 - 2018

Flores Rangel R. M. , Project Supported by Higher Education Institutions, Method development and validation of a thermal desorption method (TD-GC-MS) for characterization of semi-volatile organic compounds in ambient air, 2017 - 2018

## **Citations**

Total Citations (WOS):73

h-index (WOS):6