

## Asst. Prof. EZEL BOYACI

### Personal Information

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### Education Information

Doctorate, İzmir Yüksek Teknoloji Enstitüsü, Mühendislik Ve Fen Bilimleri Enstitüsü, Kimya (YI) (Tezli) (İngilizce), Turkey 2008 - 2012

Post Graduate, İzmir Yüksek Teknoloji Enstitüsü, Mühendislik Ve Fen Bilimleri Enstitüsü, Kimya (YI) (Tezli) (İngilizce), Turkey 2005 - 2008

Under Graduate, İzmir Yüksek Teknoloji Enstitüsü, Fen Fakültesi, Kimya Bölümü, Turkey 2000 - 2005

Associate Degree, Ege Üniversitesi, Ege Meslek Yüksekokulu, Gıda İşleme Bölümü, Turkey 1996 - 1998

### Dissertations

Doctorate, Development of novel functionalized solid phase extraction (SPE) sorbents and solid phase microextraction (SPME) fiber coatings for analytical applications, İzmir Yüksek Teknoloji Enstitüsü, Kimya (YI) (Tezli) (İngilizce), 2012

Post Graduate, Sorption of As(V) from waters by use of novel amine-containing sorbents prior to HGAAS and ICP-MS determination, İzmir Yüksek Teknoloji Enstitüsü, Kimya (YI) (Tezli) (İngilizce), 2008

### Research Areas

Natural Sciences

### Academic Titles / Tasks

Assistant Professor, Middle East Technical University, Faculty of Arts and Sciences, Department of Chemistry, 2018 - Continues

Assistant Professor, Middle East Technical University, Faculty of Arts and Sciences, Department of Chemistry, 2017 - 2018

Research Assistant PhD, University of Waterloo, Department of Chemistry, 2012 - 2017

Research Assistant, İzmir Yüksek Teknoloji Enstitüsü, Fen Fakültesi, Kimya Bölümü, 2005 - 2012

### Courses

ANALYTICAL SEPARATION METHODS, Under Graduate, 2019 - 2020

## ARTICLES PUBLISHED IN JOURNALS THAT ENTERED SCI, SSCI AND AHCI INDEXES

- **Development of a solid-phase microextraction LC-MS/MS method for determination of oxidative stress biomarkers in biofluids**  
Kahremanoglu K., Temel E. R., Korkut T. E., Nalbant A. A., BAŞTUĞ AZER B., DURUCAN C., VOLKAN M., BOYACI E.  
JOURNAL OF SEPARATION SCIENCE, 2020 (Journal Indexed in SCI)
- **Advancements in non-invasive biological surface sampling and emerging applications**  
Nalbant A. A., Boyacı E.  
Separations, vol.6, 2019 (Journal Indexed in SCI)
- **Application of in situ Solid-Phase Microextraction on Mediterranean Sponges for Untargeted Exometabolome Screening and Environmental Monitoring**  
Bojko B., Onat B., Boyacı E., Psillakis E., Dailianis T., Pawliszyn J.  
Frontiers in Marine Science, vol.6, 2019 (Journal Indexed in SCI)
- **Multineuromodulator measurements across fronto-striatal network areas of the behaving macaque using solid-phase microextraction**  
Hassani S., Lendor S., Boyacı E., Pawliszyn J., Womelsdorf T.  
Journal of neurophysiology, vol.122, pp.1649-1660, 2019 (Journal Indexed in SCI)
- **Space-resolved tissue analysis by solid-phase microextraction coupled to high-resolution mass spectrometry via desorption electrospray ionization**  
Lendor S., Gómez-Ríos G. A., Boyacı E., Vander Heide H., Pawliszyn J.  
Analytical Chemistry, vol.91, pp.10141-10148, 2019 (Journal Indexed in SCI)
- **In vivo brain sampling using a microextraction probe reveals metabolic changes in rodents after deep brain stimulation**  
Reyes-Garcés N., Diwan M., Boyacı E., Gómez-Ríos G. A., Bojko B., Nobrega J. N., Bambico F. R., Hamani C., Pawliszyn J.  
Analytical Chemistry, vol.91, pp.9875-9884, 2019 (Journal Indexed in SCI)
- **Solid Phase Microextraction-Based Miniaturized Probe and Protocol for Extraction of Neurotransmitters from Brains in Vivo**  
Lendor S., Hassani S., Boyacı E., Singh V., Womelsdorf T., Pawliszyn J.  
ANALYTICAL CHEMISTRY, vol.91, pp.4896-4905, 2019 (Journal Indexed in SCI)
- **Thin film microextraction: Towards faster and more sensitive microextraction**  
Olcer Y. A., Tascon M., Eroglu A. E., BOYACI E.  
TRAC-TRENDS IN ANALYTICAL CHEMISTRY, vol.113, pp.93-101, 2019 (Journal Indexed in SCI)
- **The use of solid phase microextraction for metabolomic analysis of non-small cell lung carcinoma cell line (A549) after administration of combretastatin A4**  
Jaroch K., BOYACI E., Pawliszyn J., Bojko B.  
SCIENTIFIC REPORTS, vol.9, 2019 (Journal Indexed in SCI)
- **Rapid determination of immunosuppressive drug concentrations in whole blood by coated blade spray-tandem mass spectrometry (CBS-MS/MS)**  
Gomez-Rios G. A., Tascon M., Reyes-Garces N., Boyacı E., Poole J. J., Pawliszyn J.  
ANALYTICA CHIMICA ACTA, vol.999, pp.69-75, 2018 (Journal Indexed in SCI)
- **High-throughput analysis using non-depletive SPME: challenges and applications to the determination of free and total concentrations in small sample volumes**  
Boyacı E., Bojko B., Reyes-Garces N., Poole J. J., Gomez-Rios, Gomez-Rios G. A. A., Teixeira A., Nicol B., Pawliszyn J.  
SCIENTIFIC REPORTS, vol.8, 2018 (Journal Indexed in SCI)
- **Advances in Solid Phase Microextraction and Perspective on Future Directions**  
Reyes-Garces N., Gionfriddo E., Gmez-Rios G. A., Alam M. N., Boyacı E., Bojko B., Singh V., Grandy J., Pawliszyn J.  
ANALYTICAL CHEMISTRY, vol.90, pp.302-360, 2018 (Journal Indexed in SCI)
- **Quantitative analysis of biofluid spots by coated blade spray mass spectrometry, a new approach to rapid screening**  
Gomez-Rios G. A., Tascon M., Reyes-Garces N., Boyacı E., Poole J., Pawliszyn J.  
SCIENTIFIC REPORTS, vol.7, 2017 (Journal Indexed in SCI)
- **Rapid and Concomitant Analysis. of Pharmaceuticals in Treated Wastewater by Coated Blade Spray**

## Mass Spectrometry

Poole J. J., Gomez-Rios G. A., Boyaci E., Reyes-Garces N., Pawliszyn J.

ENVIRONMENTAL SCIENCE & TECHNOLOGY, vol.51, pp.12566-12572, 2017 (Journal Indexed in SCI)

### ● **Ultra-fast quantitation of voriconazole in human plasma by coated blade spray mass spectrometry**

Tascon M., Gomez-Rios G. A., Reyes-Garces N., Poole J., Boyaci E., Pawliszyn J.

JOURNAL OF PHARMACEUTICAL AND BIOMEDICAL ANALYSIS, vol.144, pp.106-111, 2017 (Journal Indexed in SCI)

### ● **High-Throughput Screening and Quantitation of Target Compounds in Biofluids by Coated Blade Spray-Mass Spectrometry**

Tascon M., Gomez-Rios G. A., Reyes-Garces N., Poole J., Boyaci E., Pawliszyn J.

ANALYTICAL CHEMISTRY, vol.89, pp.8421-8428, 2017 (Journal Indexed in SCI)

### ● **Deposition of a Sorbent into a Recession on a Solid Support To Provide a New, Mechanically Robust Solid-Phase Microextraction Device**

Poole J. J., Grandy J. J., Yu M., Boyaci E., Gomez-Rios G. A., Reyes-Garces N., Bojko B., Heide H. V., Pawliszyn J.

ANALYTICAL CHEMISTRY, vol.89, pp.8021-8026, 2017 (Journal Indexed in SCI)

### ● **New Generation of Solid-Phase Microextraction Coatings for Complementary Separation Approaches: A Step toward Comprehensive Metabolomics and Multiresidue Analyses in Complex Matrices**

Gionfriddo E., Boyaci E., Pawliszyn J.

ANALYTICAL CHEMISTRY, vol.89, pp.4046-4054, 2017 (Journal Indexed in SCI)

### ● **Time Weighted Average Concentration Monitoring Based on Thin Film Solid Phase Microextraction**

Ahmadi F., Sparham C., Boyaci E., Pawliszyn J.

ENVIRONMENTAL SCIENCE & TECHNOLOGY, vol.51, pp.3929-3937, 2017 (Journal Indexed in SCI)

### ● **Fast Quantitation of Target Analytes in Small Volumes of Complex Samples by Matrix-Compatible Solid-Phase Microextraction Devices**

Piri-Moghadam H., Ahmadi F., Gomez-Rios G. A., Boyaci E., Reyes-Garces N., Aghakhani A., Bojko B., Pawliszyn J.

ANGEWANDTE CHEMIE-INTERNATIONAL EDITION, vol.55, pp.7510-7514, 2016 (Journal Indexed in SCI)

### ● **A digital microfluidic interface between solid-phase microextraction and liquid chromatography-mass spectrometry**

Choi K., Boyaci E., Kim J., Seale B., Barrera-Arbelaez L., Pawliszyn J., Wheeler A. R.

JOURNAL OF CHROMATOGRAPHY A, vol.1444, pp.1-7, 2016 (Journal Indexed in SCI)

### ● **A study of thin film solid phase microextraction methods for analysis of fluorinated benzoic acids in seawater**

Boyaci E., Gorynski K., Viteri C. R., Pawliszyn J.

JOURNAL OF CHROMATOGRAPHY A, vol.1436, pp.51-58, 2016 (Journal Indexed in SCI)

### ● **Development of a Carbon Mesh Supported Thin Film Microextraction Membrane As a Means to Lower the Detection Limits of Benchtop and Portable GC/MS Instrumentation**

Grandy J. J., Boyaci E., Pawliszyn J.

ANALYTICAL CHEMISTRY, vol.88, pp.1760-1767, 2016 (Journal Indexed in SCI)

### ● **A critical review of the state of the art of solid-phase microextraction of complex matrices III. Bioanalytical and clinical applications**

Souza-Silva E. A., Reyes-Garces N., Gomez-Rios G. A., Boyaci E., Bojko B., Pawliszyn J.

TRAC-TRENDS IN ANALYTICAL CHEMISTRY, vol.71, pp.249-264, 2015 (Journal Indexed in SCI)

### ● **Targeting Mitochondria with Avocatin B Induces Selective Leukemia Cell Death**

Lee E. A., Angka L., Rota S., Hanlon T., Mitchell A., Hurren R., Wang X. M., Gronda M., Boyaci E., Bojko B., et al.

CANCER RESEARCH, vol.75, pp.2478-2488, 2015 (Journal Indexed in SCI)

### ● **Sample preparation with solid phase microextraction and exhaustive extraction approaches: Comparison for challenging cases**

Boyaci E., Rodriguez-Lafuente A., Gorynski K., Mirnaghi F., Souza-Silva E. A., Hein D., Pawliszyn J.

ANALYTICA CHIMICA ACTA, vol.873, pp.14-30, 2015 (Journal Indexed in SCI)

### ● **In vivo solid phase microextraction sampling of human saliva for non-invasive and on-site monitoring**

Bessonneau V., Boyaci E., Maciazek-Jurczyk M., Pawliszyn J.

ANALYTICA CHIMICA ACTA, vol.856, pp.35-45, 2015 (Journal Indexed in SCI)

● **Micelle Assisted Thin-Film Solid Phase Microextraction: A New Approach for Determination of Quaternary Ammonium Compounds in Environmental Samples**

Boyaci E., Pawliszyn J.

● ANALYTICAL CHEMISTRY, vol.86, pp.8916-8921, 2014 (Journal Indexed in SCI)

● **Chitosan-Immobilized Pumice for the Removal of As(V) from Waters**

Turan D., Kocahakimoglu C., Boyaci E., Sofuoglu S. C. , Eroglu A. E.

● WATER AIR AND SOIL POLLUTION, vol.225, 2014 (Journal Indexed in SCI)

● **Introduction of solid-phase microextraction as a high-throughput sample preparation tool in laboratory analysis of prohibited substances**

Boyaci E., Gorynski K., Rodriguez-Lafuente A., Bojko B., Pawliszyn J.

● ANALYTICA CHIMICA ACTA, vol.809, pp.69-81, 2014 (Journal Indexed in SCI)

● **Thin-film microextraction coupled to LC-ESI-MS/MS for determination of quaternary ammonium compounds in water samples**

Boyaci E., Sparham C., Pawliszyn J.

● ANALYTICAL AND BIOANALYTICAL CHEMISTRY, vol.406, pp.409-420, 2014 (Journal Indexed in SCI)

● **Microextraction versus exhaustive extraction approaches for simultaneous analysis of compounds in wide range of polarity**

Mirnaghi F. S. , Gorynski K., Rodriguez-Lafuente A., Boyaci E., Bojko B., Pawliszyn J.

● JOURNAL OF CHROMATOGRAPHY A, vol.1316, pp.37-43, 2013 (Journal Indexed in SCI)

● **Electrospun amino-functionalized PDMS as a novel SPME sorbent for the speciation of inorganic and organometallic arsenic species**

Boyaci E., Horzum N., Cagir A., Demir M. M. , Eroglu A. E.

● RSC ADVANCES, vol.3, pp.22261-22268, 2013 (Journal Indexed in SCI)

● **Synthesis, characterization and application of a novel mercapto- and amine-bifunctionalized silica for speciation/sorption of inorganic arsenic prior to inductively coupled plasma mass spectrometric determination**

Boyaci E., Cagir A., Shahwan T., Eroglu A. E.

● TALANTA, vol.85, pp.1517-1525, 2011 (Journal Indexed in SCI)

● **Green synthesis of iron nanoparticles and their application as a Fenton-like catalyst for the degradation of aqueous cationic and anionic dyes**

Shahwan T., Abu Sirriah S., Nairat M., Boyaci E., Eroglu A. E. , Scott T. B. , Hallam K. R.

● CHEMICAL ENGINEERING JOURNAL, vol.172, pp.258-266, 2011 (Journal Indexed in SCI)

● **Sorption Efficiency of Chitosan Nanofibers toward Metal Ions at Low Concentrations**

Horzum N., Boyaci E., Eroglu A. E. , Shahwan T., Demir M. M.

● BIOMACROMOLECULES, vol.11, pp.3301-3308, 2010 (Journal Indexed in SCI)

● **Sorption of As(V) from waters using chitosan and chitosan-immobilized sodium silicate prior to atomic spectrometric determination**

Boyaci E., Eroglu A. E. , Shahwan T.

TALANTA, vol.80, pp.1452-1460, 2010 (Journal Indexed in SCI)

## Books & Book Chapters

● **Sample HandlingjSample Preservation**

Boyaci E.

in: Encyclopedia of Analytical Science Reference Work , Paul Worsfold,Alan Townshend,Colin Poole,Manuel Miró, Editor, Elsevier Science, Oxford/Amsterdam , Amsterdam, pp.133-142, 2019

## Refereed Congress / Symposium Publications in Proceedings

- **Development Of Thin Film Microextraction Techniques For On-Site Sampling And Determination Of Pesticides Using Benchtop And Hand Portable GC/MS Instrumentation**  
Grandy J. J., Piri Moghadam H., Gionfriddo E., BOYACI E., Pawliszyn J.  
ASMS 2018, San Diego, United States Of America, 3 - 07 June 2018
- **Assessment Of Solid Phase Microextraction As A Sample Preparation Tool For Metabolomics Analysis Of Brain Tissue By Liquid Chromatography-Mass Spectrometry**  
Reyes-Garcés N., BOYACI E., Gómez-Ríos G. A. , Bojko B., Vuckovic D., Pawliszyn J.  
ASMS 2018, San Diego, United States Of America, 3 - 07 June 2018
- **Simultaneous Multi-Site Measurements Of Several Neuromodulators In Behaving Macaque Brain Using Solid-Phase Microextraction Recessed Microprobe Coupled With LC-MS**  
Lendor S., Hassani S., Singh V., BOYACI E., Womelsdorf T., Pawliszyn J.  
ASMS 2018, San Diego, United States Of America, 3 - 07 June 2018
- **Space-Resolved Brain Tissue Analysis by Solid Phase Microextraction Coupled to High Resolution Mass Spectrometry Via Desorption Electrospray Ionization**  
Lendor S., BOYACI E., Gómez-Ríos G. A. , Vander Heide H., Pawliszyn J.  
Pittcon 2018, Orlando, United States Of America, 26 February - 01 March 2018
- **Evaluation of Reproducibility and Matrix Compatibility of SPME LC Tip Fibers for Compounds with A Wide Range of Physicochemical Properties**  
Tascon M., Aurand C., BOYACI E., Pawliszyn J., Reyes-Garcés N.  
Pittcon 2018, Orlando, United States Of America, 26 February - 01 March 2018
- **Can LC-MS be Replaced by Direct Coupling of SPME to MS in Clinical Applications?**  
Gómez-Ríos G. A. , Tascon M., Kasperkiewicz A., Aquaro V., Rickert D., Reyes-Garcés N., BOYACI E., Lendor S., Singh V., Pawliszyn J.  
MSACL 2018 US, Palm Springs, United States Of America, 21 - 25 January 2018
- **DEVELOPMENT OF IN VITRO HIGH-THROUGHPUT NON-DEPLETIVE SPME METHOD FOR DETERMINATION OF FREE AND TOTAL CONCENTRATIONS IN SMALL VOLUMES OF BIOFLUIDS**  
BOYACI E., Bojko B., Reyes-Garcés N., Poole J. J. , Gómez-Ríos G. A. , Teixeira A., Nicol B., Pawliszyn J.  
ExTech 2017, Santiago de Compostela, Spain, 27 - 30 June 2017
- **Solid phase microextraction: a new tool for in vivo monitoring of metabolic changes occurring during deep brain stimulation**  
Reyes-Garcés N., BOYACI E., Gómez-Ríos G. A. , Bojko B., Hamani C., Pawliszyn J.  
ExTech 2017, Santiago de Dompostela, Spain, 27 - 30 June 2017
- **NEW GENERATION OF SOLID-PHASE MICROEXTRACTION FIBERS FOR COMPLEMENTARY SEPARATION APPROACHES: A STEP TOWARD COMPREHENSIVE METABOLOMICS AND MULTIRESIDUE ANALYSES IN COMPLEX MATRICES**  
BOYACI E., Gionfriddo E., Pawliszyn J.  
ExTech 2017, Santiago de Compostela, Spain, 27 - 30 June 2017
- **Solid phase microextraction and liquid chromatography coupled to high resolution mass spectrometry: a powerful platform for in vivo brain metabolomics studies,**  
Reyes-Garcés N., BOYACI E., Gómez-Ríos G. A. , Bojko B., Vuckovic D., Hamani C., Pawliszyn J.  
HPLC 2017, Prag, Czech Republic, 18 - 22 June 2017
- **Development of a high throughput SPME-HPLC-MS/MS in-vitro assay for monitoring time course changes in kinetics and dynamics of cell line systems**  
BOYACI E., Bojko B., Gómez-Ríos G. A. , Reyes-Garcés N., Poole J. J. , Pawliszyn J.  
HPLC 2017, Prag, Czech Republic, 18 - 22 June 2017
- **Untargeted metabolomic and lipidomic characterization of brain tissue using solid phase microextraction**  
BOYACI E., Reyes-Garcés N., Gómez-Ríos G. A. , Bojko B., Pawliszyn J.  
ASMS Conference, Indianapolis, United States Of America, 4 - 08 June 2017

- **Solid Phase Microextraction: A New Tool for *in vivo* monitoring of Metabolic Changes Occurring During Deep Brain Stimulation**  
Reyes-Garcés N., BOYACI E., Gómez-Ríos G. A. , Bojko B., Hamani C., Pawliszyn J.  
ASMS Conference, Indianapolis, United States Of America, 4 - 08 June 2017
- **Coated Blade Spray: Shifting the Paradigm of Direct Sample Introduction to Mass Spectrometry**  
Gómez-Ríos G. A. , Tascon M., Reyes-Garcés N., Rickert D., BOYACI E., Poole J. J. , Jaroch K., Bojko B., Pawliszyn J.  
ASMS 2017, Indianapolis, United States Of America, 4 - 08 June 2017
- **Simultaneous Determination of Immunosuppressive Drugs from Whole Blood by Coated Blade Spray Ionization-Mass Spectrometry**  
Tascon M., BOYACI E., Gómez-Ríos G. A. , Pawliszyn J., Poole J. J. , Reyes-Garcés N.  
Pittcon 2017, Şikago, United States Of America, 5 - 09 March 2017
- **New Generation of Biocompatible Solid SPME Coatings for Integrated Separation Platforms Applied to Targeted and Untargeted Analyses**  
BOYACI E., Gionfriddo E., Pawliszyn J.  
Pittcon 2017, Şikago, United States Of America, 5 - 09 March 2017
- **In vivo brain analysis using solid phase microextraction**  
Reyes-Garcés N., BOYACI E., Gómez-Ríos G. A. , Bojko B., Vuckovic D., Hamani C., Pawliszyn J.  
Pittcon 2017, Şikago, United States Of America, 5 - 09 March 2017
- **Time Weighted Average Concentration Monitoring of Compounds with Wide Range of Physicochemical Properties in Aquatic Environment Using Thin Film Solid Phase Microextraction**  
BOYACI E., Sparham C., Ahmadi F., Pawliszyn J.  
Pittcon 2017, Şikago, United States Of America, 5 - 09 March 2017
- **Quantitative Analysis of Therapeutic Drugs in Blood/plasma Spot Samples by Coated Blade Spray Ionization-Mass Spectrometry (CBS-MS)**  
Gómez-Ríos G. A. , BOYACI E., Pawliszyn J., Poole J. J. , Tascon M., Reyes-Garcés N.  
Pittcon 2017, Şikago, United States Of America, 5 - 09 March 2017
- **Deposition of a Sorbent into a Recession on a Solid Support Provides a New, Mechanically Robust Solid Phase Micro-Extraction Device**  
Poole J. J. , Bojko B., BOYACI E., Gómez-Ríos G. A. , Vander Heide H., Pawliszyn J., Grandy J. J. , Reyes-Garcés N.  
Pittcon 2017, Şikago, United States Of America, 05 March 2017
- **High-Throughput Screening and Quantitation of Prohibited Substances in Plasma and Urine Samples by Coated Blade Spray-Mass Spectrometry (CBS-MS)**  
Tascon M., BOYACI E., Gómez-Ríos G. A. , Pawliszyn J., Poole J. J. , Reyes-Garcés N.  
Pittcon 2017, Şikago, 5 - 09 March 2017

## Supported Projects

BOYACI E., Project Supported by Higher Education Institutions, Biyo-yüzeyleylerden metabolomiks ve çoklu kalıntı analizleri için termal ve solvent desorpsiyonuna uygun esnek mikroekstraksiyon ince filmlerinin geliştirilmesi, 2018 - 2020

## Citations

Total Citations (WOS):1558

h-index (WOS):22