General

Name Surname :	EZEL BOYACI
Address:	Middle East Technical University , Department of Chemistry, 06800, Ankara, Turkey

Education:

Term	Degree	University	Education Area
2008- 2012	PhD	İzmir Institute of Technology	Chemistry (Analytical Chemistry)
2005-2008	MSc	İzmir Institute of Technology	Chemistry (Analytical Chemistry)
2000-2005	BSc	İzmir Institute of Technology	Chemistry

- **PhD Thesis:**
  Development of novel functionalized solid phase extraction (SPE) sorbents and solid phase microextraction (SPME) fiber coatings for analytical applications
  Supervisor: Prof. Dr. Ahmet E. Eroglu

- **MSc Thesis:**
  Sorption of As (V) from waters by use of novel amine-containing sorbents prior to HGAAS and ICP-MS determination
  Supervisor: Prof. Dr. Ahmet E. Eroglu

Academic and Work Experience:

Term	Position	University/Corporation	Section
2018 (June-August, 2 months)	Visiting scientist	University of Waterloo	Chemistry
September 2017-	Assist. Prof. Dr.	Middle East Technical University	Department of Chemistry
2016- June 2017	Research Associate	University of Waterloo	Chemistry
2012- 2015	Post Doctoral Fellow	University of Waterloo	Chemistry
2005 - 2011	Research Assistant	İzmir Institute of Technology	Chemistry
2004 (1 month)	Internship	İzmir Refik Saydam National Public Health Agency	Environmental Health Laboratory

- **Habilitation date:** 21 October 2015

Publications

42. B. Bojko, T. Vasiljevic, E. Boyaci, A. Roszkowska, N. Kraeva, C.A. Ibarra Moreno, A. Koivu, M. Wąsowicz, A.Hanna, S. Hamilton, S. Riazi, J. Pawliszyn, Untargeted metabolomics profiling of skeletal muscle samples from malignant hyperthermia susceptible patients, Canadian Journal of Anesthesia, 68, 761–772, 2021.

41. N. Reyes-Garces, E. Boyaci, G.A. Gomez-Rios, M. Olkowicz, C. Monnin, B. Bojko, D. Vuckovic, J. Pawliszyn, Assessment of solid phase microextraction as a sample preparation tool for untargeted analysis of brain tissue using liquid chromatography-mass spectrometry, Journal of Chromatography A, 1638, 461862, 2021.

40. E. Boyaci, S. Lendor, B. Bojko, N. Reyes-Garces, G.A. Gomez-Rios, M. Olkowicz, M. Diwan, M. Palmer, C. Hamani, J. Pawliszyn, Comprehensive Investigation of Metabolic Changes Occurring in the Rat Brain Hippocampus after Fluoxetine Administration Using Two Complementary In Vivo Techniques: Solid Phase Microextraction and Microdialysis, Chemical Neuroscience, 11, 22, 3749–3760, 2020. **Double affiliation.**

39. S. Lendor, M. Olkowicz, E. Boyaci, M. Yu, M. Diwan, C. Hamani, M. Palmer, N. Reyes-Garcés, G.A. Gómez-Ríos, J. Pawliszyn, Investigation of Early Death-Induced Changes in Rat Brain by Solid Phase Microextraction via Untargeted High Resolution Mass Spectrometry: In Vivo versus Postmortem Comparative Study, Chemical Neuroscience, 11, 12, 1827–1840, 2020.

38. K. Kahremanoglu, E.R. Temel, T.E. Korkut, A.A. Nalbant, B. Başтuğ Azer C. Durucan, M. Volkan, E. Boyaci, Development

of a Solid-Phase Microextraction LC-MS/MS Method for Determination of Oxidative Stress Biomarkers in Biofluids, , Journal of Separation Science, 43, 1925–1933, 2020.- **METU affiliation, article with her student.**

37. B Bojko, B Onat, E Boyaci, E Psillakis, T Dailianis, J Pawliszyn, Application of in-situ Solid-Phase Microextraction on Mediterranean Sponges for Untargeted Exometabolome Screening and Environmental Monitoring, Frontiers in Marine Science 6, 632, 2019.- **Double affiliation.**

36. A.A. Nalbant, E. Boyacı, Advancements in Non-Invasive Biological Surface Sampling and Emerging Applications, *Separations,* 6(4), 52, 2019. **METU affiliation, article with her student.**

35. N. Reyes-Garcés, M. Diwan, E. Boyacı, G.A. Gómez-Ríos, B. Bojko, J.N. Nobrega, F.R. Bambico, C. Hamani, J. Pawliszyn, In Vivo Brain Sampling Using a Microextraction Probe Reveals Metabolic Changes in Rodents after Deep Brain Stimulation, Anal. Chem., 91, 9875-9884, 2019.

34. S. Lendor, G.A. Gómez-Ríos, E. Boyacı, H.V. Heide, J. Pawliszyn, Space-Resolved Tissue Analysis by Solid-Phase Microextraction Coupled to High-Resolution Mass Spectrometry via Desorption Electrospray Ionization, Anal. Chem., 91, 10141−10148, 2019.

33. S. Lendor, S.A. Hassani, E. Boyaci, V. Singh, T. Womelsdorf, J. Pawliszyn, Solid Phase Microextraction-Based Miniaturized Probe and Protocol for Extraction of Neurotransmitters from Brains in Vivo, Anal. Chem., 91, 4896−4905, 2019.

32. S.A. Hassani, S. Lendor, E. Boyaci,J. Pawliszyn, T. Womelsdorf, Multi-Neuromodulator Measurements across Fronto-Striatal Network Areas of the Behaving Macaque using Solid-Phase Microextraction, Journal of neurophysiology 122 (4), 1649-1660, 2019.

31. Y.A. Olcer, M. Tascon, A.E. Eroglu, E. Boyacı, Thinfilm microextraction: Towards faster and more sensitivemicroextraction, Trends in Analytical Chemistry, 113, 93-101, 2019. **METU affiliation.**

30. K. Jaroch, E. Boyacı, J. Pawliszyn, B. Bojko, The use of solid phase microextraction for metabolomic analysis of non-small cell lung carcinoma cell line (A549) after administration of combretastatin A4, Scientific Reports, 9, 402, 2019.- **Double affiliation.**

29. R.D. McDowall, J. Pawliszyn, E. Boyacı, Sample Handling—Sample Preservation, Reference Module in Chemistry, Molecular Sciences and Chemical Engineering, Encyclopedia of Analytical Science, 169-177, 2018. **METU affiliation.**

28. E. Boyacı, B. Bojko, N. Reyes-Garcés, J. Poole, G.A. Gómez-Ríos, A. Teixeira, B. Nicol J. Pawliszyn, High-throughput analysis using non-depletive SPME: challenges and applications to the determination of free and total concentrations in small sample volumes, *Scientific Reports*, 8, 1167, 2018.

27. G.A. Gómez-Ríos, M. Tascon, N. Reyes-Garcés, E. Boyacı, J. Poole, J. Pawliszyn, Rapid determination of immunosuppressive drug concentrations in whole blood by coated blade spray-tandem mass spectrometry (CBS-MS/MS), *Analytica Chimica Acta*, 998, (69-75), 2017.

26. N. Reyes-Garcés, E. Gionfriddo, G.A. Gomez-Ríos, Md. N. Alam, E. Boyacı, B. Bojko, V. Singh, J. Grandy, J. Pawliszyn, Advances in solid phase microextraction and perspective on future directions, *Analytical Chemistry*, 90, (302−360), 2017. **METU affiliation.**

25. G.A. Gómez-Ríos, M. Tascon, N. Reyes-Garcés, E. Boyacı, J. Poole, J. Pawliszyn, Quantitative analysis of biofluid spots by coated blade spray mass spectrometry, a new approach to rapid screening, *Scientific Reports*, 7 (1), 16104, 2017.

24. J. Poole, G.A. Gómez-Ríos, E. Boyacı, N. Reyes-Garcés, J. Pawliszyn, Rapid and Concomitant Analysis of Pharmaceuticals in Treated Wastewater by Coated Blade Spray Mass Spectrometry, *Environmental Science & Technology*, 51 (21), (12566–12572), 2017.

23. M. Tascon, G. Gomez-Rios, N. Reyes-Garces, J Poole, E. Boyacı, and J. Pawliszyn, High-throughput screening and quantitation of target compounds in biofluids by coated blade spray-mass spectrometry, *Analytical Chemistry*, DOI: 10.1021/acs.analchem.7b01877.

22. J.J. Poole, J.J. Grandy, M. Yu, E. Boyaci, G.A. Gómez-Ríos, N. Reyes-Garcés, B. Bojko, H.V. Heide, and J. Pawliszyn,

Deposition of a sorbent into a recession on a solid support to provide a new, mechanically robust solid-phase microextraction device, *Analytical Chemistry*, 89 (15), (8021–8026), 2017.

21. M. Tascon, G. Gomez-Ríos, N. Reyes-Garces, J Poole, E. Boyacı, and J. Pawliszyn, Ultra-fast quantitation of voriconazole in human plasma by coated blade spray mass spectrometry, *Journal of Pharmaceutical and Biomedical Analysis*, 144, (106-111), 2017.

20. E. Gionfriddo, E. Boyacı, and J. Pawliszyn, New generation of SPME coatings for complementary separation approaches: a step toward comprehensive metabolomics and multiresidue analyses in complex matrices, *Analytical Chemistry*, 89, (4046–4054), 2017.

19. F. Ahmadi, C. Sparham, E. Boyacı, and J. Pawliszyn, Time weighted average concentration monitoring based on thin film solid phase microextraction, *Environmental Science & Technology*, 51 (7), (3929-3937) 2017.

18. H. Piri-Moghadam, F. Ahmadi, G.A. Gómez-Ríos, E. Boyacı, N. Reyes-Garcés, A. Aghakhani, B. Bojko, J. Pawliszyn, Fast quantitation of target analytes in small volumes of complex samples by matrix-compatible solid-phase microextraction devices, *Angewandte Chemie*, 128 (26), (7636-7640), 2016.

17. J. J. Grandy, E. Boyacı, J. Pawliszyn, 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, *Analytical Chemistry*, 88, (1760-1767) 2016.

16. K. Choi, E. Boyacı, J. Kim, B. Seale, L. Barrera-Arbelaez, J. Pawliszyn, A. R. Wheeler, A digital microfluidic interface between *solid-phase microextraction and liquid chromatography–mass spectrometry,* Journal of Chromatography A, 1444 (1-7) 2016.

15. E. Boyacı, K. Gorynski, C. R. Viteri, J. Pawliszyn A study of thin film solid phase microextraction methods for analysis of fluorinated benzoic acids in seawater, Journal of Chromatography A, 1436 (51-58) 2016.

14. E. A. Lee, L. Angka, S. Rota, T. Hanlon, A. Mitchell, R. Hurren, X. M. Wang, M. Gronda, E Boyacı, B. Bojko, M. Minden, S. Sriskanthadevan, A. Datti, J. L.Wrana, A. Edginton, J. Pawliszyn, J. W. Joseph, J. Quadrilatero, A. D. Schimmer, P. A. Spagnuolo, Targeting mitochondria with Avocatin B induces selective leukemia cell death, *Cancer Research*, 75(12), (2478-2488) 2015.

13. E. Boyacı, Á. Rodríguez-Lafuente, K. Gorynski, F. Mirnaghi, É. A. Souza Silva, D. Hein, J. Pawliszyn, Sample preparation with solid phase microextraction and exhaustive extraction approaches: Comparison for challenging cases, *Analytica Chimica Acta*, 873 (14-30) 2015.

12. É. A. Souza-Silva, N. Reyes-Garcés, G. A. Gómez-Ríos, E. Boyacı, B. Bojko, J. Pawliszyn, A critical review of the state of the art of solid-phase microextraction of complex matrices III. Bioanalytical and clinical applications, *Trends in Analytical Chemistry*, 71 (249-264) 2015.

11. V. Bessonneau, E. Boyacı, M. Maciążek-Jurczyk, J. Pawliszyn, In vivo solid phase microextraction sampling of human saliva for non-invasive and on-site monitoring, *Analytica Chimica Acta*, 856 (35-45) 2015.

10. E. Boyacı, J. Pawliszyn, Micelle assisted thin-film solid phase microextraction: A new approach for determination of quaternary ammonium compounds in environmental samples, *Analytical Chemistry*, 86 (8916−8921) 2014.

9. D. Turan, C. Kocahakimoğlu, E. Boyacı, S. C. Sofuoglu, A. E. Eroğlu, Chitosan-immobilized pumice for the removal of As (V) from waters, *Water, Air, & Soil Pollution*, 225 (5), (1-12) 2014.

8. E. Boyacı, C. Sparham, J. Pawliszyn, Thin-film microextraction coupled to LC-ESI-MS/MS for determination of quaternary ammonium compounds in water samples, *Analytical and Bioanalytical Chemistry*, 406 (2), (409-420) 2014.

7. E. Boyacı, K. Gorynski, A. Rodriguez-Lafuente, B. Bojko, J. Pawliszyn, Introduction of solid-phase microextraction as a high-throughput sample preparation tool in laboratory analysis of prohibited substances, *Analytica Chimica Acta*, 809, (69-81) 2014.

6. F. S. Mirnaghi, K. Goryński, A. Rodriguez-Lafuente, E. Boyacı, B. Bojko, J. Pawliszyn, Microextraction versus exhaustive extraction approaches for simultaneous analysis of compounds in wide range of polarity, *Journal of Chromatography A,* 1316 (37-43) 2013.

5. E. Boyacı, N. Horzum, A. Çağır, M. M. Demir, A. E. Eroğlu, Electrospun amino-functionalized PDMS as a novel SPME sorbent for the speciation of inorganic and organometallic arsenic species, *RSC Advances*, 3 (44), (22261-22268) 2013.

4. E. Boyacı, A. Çağır,T. Shahwan, A. E. Eroğlu. 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, *Talanta*, 85 (1517–1525) 2011.

3. T. Shahwan, S. A. Sirriah, M. Nairat, E. Boyacı, A. E. Eroğlu, T.B. Scott, K.R. Hallam, Green synthesis of iron nanoparticles and their application as a Fenton-like catalyst for the degradation of aqueous cationic and anionic dyes, *Chemical Engineering Journal*, 172 (258– 266) 2011.

2. N. Horzum, E. Boyacı, A.E. Eroğlu, T. Shahwan, M. M. Demir. Sorption efficiency of chitosan nanofibers toward metal ions at low concentrations, *Biomacromolecules*, 11 (3301–3308) 2010.

1. E. Boyacı, A.E. Eroğlu, T. Shahwan. Sorption of As(V) from waters using chitosan and chitosan-immobilized sodium silicate prior to atomic spectrometric determination, *Talanta*, 80 (1452-1460) 2010.

National and International Congress Presentations:

Invited presentations

3. E. Boyacı, E. Gionfriddo, F. Ahmadi, C. Sparham, J. Pawliszyn. Solid phase microextraction: recent developments in time weighted average sampling and coating chemistries. ExTech 2017, Santiago de Compostela, Spain, 26-30 June 2017.

2. E. Boyacı, V. Bessonneau, B. Bojko, K. Gorynski, R. Jiang, A. Rodríguez-Lafuente, J. Pawliszyn. Bioanalytical application of SPME and related techniques. The Chromatography Forum of Delaware Valley Annual Symposium, Ft. Washington, USA, 3 April 2014.

1. E. Boyacı, K. Gorynski, A. Rodríguez-Lafuente, B. Bojko, J. Pawliszyn. Introduction of solid phase microextraction as a powerful tool for high-throughput sample preparation in laboratory analysis of prohibited substances. Pittcon 2014, Chicago, USA, 2-6 March 2014.

Oral presentations

43. E. Boyacı, K. Kahremanoglu, E. Temel, A.A. Nalbant, Development of High Throughput SPME-LC-MS/MS Method for Determination of Oxidative Stress Biomarkers, PortASAP– (European network for the promotion of portable, affordable and simple analytical platform) Web Conference, 18-19 June, 2020.

42. Ezel Boyacı, Mariola Olkowicz, Sofia Lendor, Nathaly Reyes Garces, German Augusto Gomez Rios, Barbara Bojko, Clement Hamani, Janusz Pawliszyn, In vivo investigation of metabolic changes occurring in the rat brain hippocampus after fluoxetine administration using two complementary techniques: solid phase microextraction and microdialysis, Istanbul, Turkey, 1-5 September 1-5, 2019.

41. J.J. Grandy, H. Piri Moghadam, E. Gionfriddo, E. Boyacı, J. Pawliszyn, Development of Thin Film Microextraction Techniques for on-site Sampling and Determination of Pesticides using Benchtop and Hand Portable GC/MS Instrumentation, ASMS 2018, San Diego, USA, 3 - 07 June 2018.

40. S. Lendor, E. Boyacı, G:A: Gómez-Ríos, H. Vander Heide, J. Pawliszyn, Space-Resolved Brain Tissue Analysis by Solid Phase Microextraction Coupled to High Resolution Mass Spectrometry via Desorption Electrospray Ionization, Pittcon 2018, Orlando, USA, 26 February - 01 March 2018.

39. M. Tascon, C. Aurand, E. Boyacı, J. Pawliszyn, N. Reyes-Garcés, Evaluation of Reproducibility and Matrix Compatibility of SPME LC Tip Fibers for Compounds with a Wide Range of Physicochemical Properties, Pittcon 2018, Orlando, USA, 26 February - 01 March 2018.

38. G.A. Gómez-Ríos, M. Tascon, A. Kasperkiewicz, V. Aquaro, D. Rickert, N. Reyes-Garcés, E. Boyacı, S. Lendor, V. Singh, J. Pawliszyn, Can LC-MS be Replaced by Direct Coupling of SPME to MS in Clinical Applications?, MSACL 2018 US, Palm Springs, USA, 21 - 25 January 2018.

37. Reyes-Garcés Nathaly, Boyaci Ezel, Gómez-Ríos German A, Bojko Barbara, Hamani Clement, Pawliszyn Janusz , Solid

Phasemicroextraction: A New Tool for in vivo Monitoring of Metabolic Changes Occurring During Deep Brain Stimulation, ASMS 2017, Indianapolis, USA, 04-08 June, 2017.

36. Reyes-Garcés Nathaly, Boyaci Ezel, Gómez-Ríos German A, Bojko Barbara, Vuckovic Dajana, Hamani Clement, Pawliszyn Janusz , Solidphase Microextraction And Liquid Chromatography Coupled To High Resolution Mass Spectrometry: Apowerful Platform For In Vivo Brain Metabolomics Studies, HPLC 2017, Prague, Czech Republic,18-22 June, 2017.

35. Reyes-Garcés Nathaly, Boyaci Ezel, Gómez-Ríos German A, Bojko Barbara, Hamani Clement, Pawliszyn Janusz, Solid phase microextraction: a new tool for in vivo monitoring of metabolic changes occurring during deep brain stimulation, ExTech 2017, Santiago de Compostela, Spain, 26-30 June, 2017.

34. Gómez-Ríos German A, Boyaci Ezel, Pawliszyn Janusz, Poole Justen J, Tascon Marcos, Reyes-Garcés Nathaly, Quantitative Analysis of Therapeutic Drugs in Blood/plasma Spot Samples by Coated Blade Spray Ionization-Mass Spectrometry (CBS-MS), Pittcon 2017, Chicago, USA, 2017.

33. Tascon Marcos, Boyaci Ezel, Gómez-Ríos German A, Pawliszyn Janusz, Poole Justen J, Reyes-Garcés Nathaly, Simultaneous Determination of Immunosuppressive Drugs from Whole Blood by Coated Blade Spray Ionization-Mass Spectrometry, Pittcon 2017, Chicago, USA, 2017.

32. Boyaci Ezel, Gionfriddo Emanuela, Pawliszyn Janusz, New Generation of Biocompatible Solid SPME Coatings for Integrated Separation Platforms Applied to Targeted and Untargeted Analyses, Pittcon 2017, Chicago, USA, 2017.

31. Poole Justen J, Bojko Barbara, Boyaci Ezel, Gómez-Ríos German A, Vander Heide Harmen, Pawliszyn Janusz, Grandy Jonathan J, Reyes-Garcés Nathaly, Deposition of a Sorbent into a Recession on a Solid Support Provides a New, Mechanically Robust Solid Phase Micro-Extraction Device, Pittcon 2017, Chicago, USA, 2017.

30. Boyaci Ezel, Sparham Chris, Ahmadi Fardin, Pawliszyn Janusz, Time Weighted Average Concentration Monitoring of Compounds with Wide Range of Physicochemical, Properties in Aquatic Environment Using Thin Film Solid Phase Microextraction, Pittcon 2017, Chicago, USA, 2017.

29. Tascon Marcos, Boyaci Ezel, Gómez-Ríos German A, Pawliszyn, Janusz, Poole Justen J, Reyes-Garcés Nathaly, High-Throughput Screening and Quantitation of Prohibited Substances in Plasma and Urine Samples by Coated Blade Spray-Mass Spectrometry (CBS-MS), Pittcon 2017, Chicago, USA, 2017.

28. Reyes-Garcés Nathaly, Boyaci Ezel, Gómez-Ríos German A, Bojko Barbara, Vuckovic Dajana, Hamani Clement, Pawliszyn Janusz, In vivo brain analysis using solid phase microextraction, Pittcon 2017, Chicago, USA, 2017.

27. Boyaci Ezel, Gionfriddo Emanuela, Pawliszyn Janusz, New Generation of Solid-Phase Microextraction Fibers for Complementary Separation Approaches: A Step Toward Comprehensive Metabolomics and Multiresidue Analyses in Complex Matrices, Extech 2017, Santiago de Compostela, Spain, 26-30 June 2017. (Converted to invited presentation).

26. G. A. Gómez-Ríos, N. Reyes-Garcés, E. Boyacı, E. Gionfriddo, J. Poole, B. Bojko, J. Pawliszyn, Fast quantitation of target analytes in complex matrices by solid phase microextraction-mass spectrometry (SPME-MS): recent developments and applications, 21st International Mass Spectrometry Conference, Toronto, Ontario, Canada, 20-26 August, 2016.

25. N. Reyes-Garcés, G. A. Gómez-Ríos, E. Boyacı, B. Bojko, J. Pawliszyn, Solid phase microextraction as a sample preparation tool for untargeted analysis of brain tissue, 18th International Symposium on Advances in Extraction Technologies & 22nd International Symposium on Separation Sciences, Torun, Poland, 3-6 July, 2016.

24. G. Augusto Gómez-Ríos, N. Reyes-Garcés, E. Boyacı, J. Pawliszyn, Coated Blade Spray-Mass Spectrometry (CBS-MS): a fast and innovative approach for the quantitative/qualitative analysis of biological matrices, 18th International Symposium on Advances in Extraction Technologies & 22nd International Symposium on Separation Sciences, Torun, Poland, 3-6 July, 2016.

23. N. Reyes-Garcés, E. Boyacı, G. A. Gómez-Ríos, B. Bojko, J. Pawliszyn, Solid phase microextraction as a sample preparation tool for untargeted analysis of brain tissue, 64th ASMS Conference on Mass Spectrometry and Allied Topics, San. Antonio, Texas, USA, 5-9 June, 2016.

22. G.A. Gómez-Ríos, N. Reyes-Garcés, E. Boyacı, B. Bojko, J Pawliszyn, Coated Blade Spray-Mass Spectrometry (CBS-MS) as a versatile approach for quantitative analysis in small and large sample volumes of biofluids, 64th ASMS Conference on Mass Spectrometry and Allied Topics, San. Antonio, Texas, USA, 5-9 June, 2016.

21. G.A. Gómez-Ríos, N. Reyes-Garcés, E. Boyacı, J. Poole, J Pawliszyn, Development, Characterization, and Application of Coated Blade Spray Ionization, Pittcon, Atlanta, Georgia, USA, 6-10 March, 2016.

20. G. A. Gómez-Ríos, N. Reyes-Garcés, E. Boyacı, B. Bojko, J Pawliszyn, Direct Coupling of Solid Phase Microextraction to Mass Spectrometry via Nano Electrospray Ionization: Development and Applications in Bioanalysis, Pittcon, Atlanta, Georgia, USA, 6-10 March, 2016.

19. E. Gionfriddo, E. Boyaci, J. Pawliszyn, New Generation of Solid SPME Coatings for Complementary Gas- and Liquid-Phase Separation: A Step Toward Integration of Metabolomics Platforms, Pittcon, Atlanta, Georgia, USA, 6-10 March, 2016.

18. E. Boyacı, V. Bessonneau, B. Bojko, K. Gorynski, M. Maciazek-Jurczyk, A. Rodríguez-Lafuente, J. Pawliszyn, Recent advances in bioanalytical applications of thin film solid phase microextraction, 98th Canadian Chemistry Conference, Ottawa, Canada, 13-17 June, 2015.

17. B. Bojko, E. Boyacı, K. Goryński, T. Dailianis, E. Yiantzi, E. Psillakis, J. Pawliszyn. Novel approach for in vivo metabolic and contaminant profiling of underwater ecosystems by LC-HRMS using solid phase microextraction as a sampling tool, 63rd ASMS Conference on Mass Spectrometry and Allied Topics, St. Louis, USA, 31 May - 4 June, 2015.

16. K. Gorynski, N. Reyes-Garcés, E. Boyacı, A. Rodríguez-Lafuente, V. Bessonneau, B. Bojko, J. Pawliszyn. Exploring the potential of high-throughput solid-phase microextraction for analysis of prohibited substances in urine, plasma, blood and saliva. Pittcon 2015, New Orleans, USA, 8-12 March, 2015.

15. N. Reyes-Garcés, E. Boyacı, K. Gorynski, Á. Rodríguez-Lafuente, B. Bojko, J. Pawliszyn, High-throughput solid phase microextraction as a convenient sample preparation approach for analysis of prohibited substances in body fluids. Latin American Congress of Chromatography (COLACRO), Cartagena, Colombia, 30 September- 3 October, 2014.

14. E. Boyacı, V. Bessonneau, B. Bojko, J. Pawliszyn, Solid phase microextraction for in-vivo and ex-vivo analysis of human saliva, 38th International Symposium on Capillary Chromatography, Riva Del Garda, Italy, 18-23 May, 2014.

13. V. Bessonneau, B. Bojko, E. Boyacı, J. Pawliszyn, Ex vivo and in vivo spme analysis of human saliva – noninvasive alternative for standard investigation. 16th International Symposium on Advances in Extraction Technologies, Crete, Greece, 25-28 May, 2014.

12. E. Boyacı, J. Pawliszyn, High-throughput analysis of quaternary ammonium compounds in environmental samples by thin-film microextraction followed by LC-ESI-MS/MS: Challenges and novel approaches for sample preparation. 16thInternational Symposium on Advances in Extraction Technologies, Crete, Greece, 25-28 May, 2014.

11. E. Boyacı, K. Gorynski, A. Rodríguez-Lafuente, B. Bojko, J. Pawliszyn, Introduction of solid-phase microextraction as a high-throughput sample preparation tool in laboratory analysis of prohibited substances. 16th International Symposium on Advances in Extraction Technologies, Crete, Greece, 25-28 May, 2014.

10. E. Boyaci, J. Pawliszyn, C. Sparham, Thin-film microextraction coupled to LC-ESI-MS/MS for determination of quaternary ammonium compounds in water samples. Pittcon 2014, Chicago, USA, 2-6 March, 2014.

9. K. Goryński, B. Bojko, B. Boyacı, A. Rodriguez-Lafuente, J. Pawliszyn, Solid-phase microextraction: A powerful tool for highthroughput sample preparation in laboratory analysis of prohibited substances. 24th. International Symposium on Pharmaceutical & Biomedical Analysis, Bologna, Italy, 30 June-3 July, 2013.

8. K. Gorynski, E. Boyacı, A. Rodriguez-Lafuente, B. Bojko, J. Pawliszyn, Application of solid-phase microextraction for highthroughput analysis of prohibited substances in urine, Copernican's Doctoral Conference, Toruń, Poland, 2013.

7. K. Gorynski, E. Boyacı, A. Rodriguez, B. Bojko, J. Pawliszyn, The use of high throughput automated SPME method for determination of doping substances in urine by LC-MS. XXII Conference of Polish Pharmaceutical Society, Białystok, Poland, 2013.

6. D. Bölek E. Boyacı, A.E. Eroglu T. Shahwan, Use of ion exchange resins modified with zero-valent iron for the sorption/speciation of inorganic As(III) and As(V) in waters. 8th Aegean Analytical Chemistry Days, Izmir, Turkey, 16-20 September, 2012.

5. E. Boyacı, A. Çağır, T. Shahwan, A.E. Eroğlu, Speciation of inorganic and organometallic arsenic species in aqueous

samples using novel SPME fibers functionalized with zero valent iron nanoparticles. 13th International Symposium on Advances in Extraction Technologies, Institut Kimia Malaysia (IKM) and National University of Singapore (NUS), Kuala Lumpur, Malaysia, 27- 29 September 2011.

4. E. Dönertaş, E. Boyacı, A. E. Eroğlu, A. Çağır, T. Shahwan, Use of amine and mercapto-modified silica for the sorption and speciation of inorganic selenium prior to determination with atomic spectrometric techniques. 7th Aegean Analytical Chemistry Days, Lesvos, Greece, 29 September- 3 October 2011.

3. E. Boyacı, A. E. Eroğlu, A. Çağır, T. Shahwan, Speciation and removal of arsenic using mercapto and amine bifunctionalyzed silicate. 5th. National Analytical Chemistry Congress, Atatürk University, Erzurum, Turkey, 21-25 June 2010.

2. E. Boyacı, Ö. Kaftan, A. E. Eroğlu, T. Shahwan, A. Çağır, Using ordered macroporous silicate structures for sorption of As, Se and V. IV. National Analytical Chemistry Congress, Fırat University, Faculty of Arts and Sciences, Department of Chemistry, Elazığ, Turkey, 25-27 June 2008.

1. E. Boyacı, A. E. Eroğlu, Use of chitosan and chitosan immobilized silicate for sorption and preconcentration of Arsenic (V), 21. National Chemistry Congress, Malatya, Turkey23 - 27 August 2007.

Poster Presentations

27. A. A. Nalbant, E. Boyacı, Development of Non-Invasive and Biocompatible Thin Film Micro-Extraction Contact Lens Type Devices Compatible for In Vivo Metabolomics Investigations from Eye Surface, Euroanalysis, Istanbul, Turkey, 1-5 September, 2019.

26. N. Reyes-Garcés, E. Boyacı, G.A. Gómez-Ríos, B. Bojko, D. Vuckovic, J. Pawliszyn, Assessment of Solid Phase Microextraction as a Sample Preparation Tool for Metabolomics Analysis of Brain Tissue by Liquid Chromatography-Mass Spectrometry, ASMS 2018, San Diego, USA, 3 - 07 June 2018

25. S. Lendor, S. Hassani, V. Singh, E. Boyacı, T. Womelsdorf, J. Pawliszyn, Simultaneous Multi-Site Measurements of Several Neuromodulators in Behaving Macaque Brain using Solid-Phase Microextraction Recessed Microprobe Coupled with LC-MS, ASMS 2018, San Diego, USA, 3 - 07 June 2018.

24. E. Boyacı, N. Reyes-Garcés, G. A. Gómez-Ríos, B. Bojko, J. Pawliszyn, Untargeted Metabolomic and lipidomic Characterization of Brain Tissue Using Solid Phase Microextraction, ASMS 2017, Indianapolis, USA, 04-08 June, 2017.

23. E. Boyacı, B. Bojko, G. A. Gómez-Ríos, N. Reyes-Garcés, J. Poole, J. Pawliszyn 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, HPLC 2017, Prague, Czech Republic, 18-22 June, 2017.

22. G:A. Gómez-Ríos, M. Tascon, N. Reyes-Garcés, D. Rickert, E. Boyaci, J. Poole, K. Jaroch, B. Bojko , J. Pawliszyn, Coated Blade Spray: Shifting the Paradigm of Direct Sample Introduction to Mass Spectrometry, ASMS 2017, (04-08.06.2017), Indianapolis, USA

21. Boyaci Ezel, Bojko Barbara, Reyes-Garcés Nathaly, Poole Justen J, Gómez-Ríos German A, Teixeira Alexandre, Nicol Beate, Pawliszyn Janusz, Development of In Vitro High-Throughput Non-Depletive SPME Method for Determination of Free and Total Concentrations In Small Volumes of Biofluids, Extech 2017, Santiago de Compostela, Spain, 26-30 June 2017.

20. E. Boyacı, B. Bojko, N. Reyes-Garcés, G.A. Gómez-Ríos, J. Pawliszyn , High throughput non-depletive SPME method for LC-MS/MS determination of free and total concentrations of multi-residue in small sample volumes, 21st International Mass Spectrometry Conference, Toronto, Ontario, Canada, 20-26 August, 2016.

19. N. Reyes-Garcés, G. A. Gómez-Ríos, E. Boyacı, B. Bojko, J. Pawliszyn, Untargeted analysis of brain tissue using solid phase microextraction, 21st International Mass Spectrometry Conference, Toronto, Ontario, Canada, 20-26 August, 2016.

18. E. Boyacı, K. Choi, J. Kim, B. Seale, L. Barrera-Arbelaez, J. Pawliszyn, A. R. Wheeler, A digital microfluidic interface between solid-phase microextraction and liquid chromatography–mass spectrometry for determination of free concentration of steroids in urine. 18th International Symposium on Advances in Extraction Technologies & 22nd International Symposium on Separation Sciences, Torun, Poland, 3-6 July, 2016.

17. G. A. Gómez-Ríos, N. Reyes-Garcés, E. Boyacı, H. Piri-Moghadam, B. Bojko, J. Pawliszyn, Fast quantitation of target

analytes in small/large volumes of complex samples by direct coupling of solid phase microextraction to mass spectrometry via nanoelectrospray ionization. 18th International Symposium on Advances in Extraction Technologies & 22nd International Symposium on Separation Sciences, Torun, Poland, 3-6 July, 2016.

16. E. Boyacı, B. Bojko, N. Reyes-Garcés, G.A. Gómez-Ríos, J. Pawliszyn High throughput multi-residue analysis in small volume of complex samples using non depletive equilibrium based SPME approach. 18th International Symposium on Advances in Extraction Technologies & 22nd International Symposium on Separation Sciences, Torun, Poland, 3-6 July, 2016.

15. E. Gionfriddo, E. Boyaci, J. Pawliszyn, New fluoropolymer-based SPME coatings for complementary gas- and liquid- phase separation. 18th International Symposium on Advances in Extraction Technologies & 22nd International Symposium on Separation Sciences, Torun, Poland, 3-6 July, 2016.

14. E. Boyacı, B. Bojko, J. Pawliszyn. High throughput non-depletive SPME method for LC-MS/MS simultaneous determination of free and total concentrations of compounds with varying physicochemical properties. 63rd ASMS Conference on Mass Spectrometry and Allied Topics, St. Louis, USA, May 31 - June 4, 2015.

13. N. Reyes-Garcés, E. Boyacı, K. Gorynski, Á. Rodríguez-Lafuente, B. Bojko, J. Pawliszyn. High-throughput solid phase microextraction (SPME)-LC-MS as a convenient method for the simultaneous determination of multiple prohibited substances in urine and plasma, 14th Toronto Post-ASMS Symposium, Toronto, Canada, September 18, 2014.

12. N. Reyes-Garcés, E. Boyacı, K. Gorynski, Á. Rodríguez-Lafuente, B. Bojko, J. Pawliszyn, High-throughput SPME-UPLC-MS as a convenient method for the simultaneous determination of various prohibited substances in urine and plasma, 62nd ASMS Conference on Mass Spectrometry and Allied Topics, Baltimore Convention Center, USA, June 15 - 19, 2014.

11. K. Gorynski, E. Boyacı, A. Rodriguez-Lafuente, B. Bojko, J. Pawliszyn, Development of solid phase microextraction for high-throughput sample preparation in laboratory analysis of prohibited substances, HTC-13 & HTSP-3, January 29-31,Bruges, Belgium, 2014.

10. K. Choi, E. Boyacı, J.Kim, J. Pawliszyn, A. R. Wheeler, A digital microfluidic interface between solid-phase microextraction (SPME) and liquid chromatography, The 18th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS 2014), San Antonio, TX 78205, USA, October 26-30, 2014.

9. E. Boyacı, K. Gorynski, A. Rodríguez-Lafuente, B. Bojko, J. Pawliszyn, High-throughput spme in 96-blade format for analysis of complex samples and difficult analytes. 38th International Symposium on Capillary Chromatography, Riva Del Garda, Italy,18-23 May 2014.

8. B. Akarsu, E. Boyacı, A.E. Eroglu T. Shahwan, Sorption and speciation of Sb(III) and Sb(V) using ion exchange resins modified with zero valent iron prior to HG-AAS and ICP-MS determination. 8th Aegean Analytical Chemistry Days, Izmir, Turkey, 16-20 September 2012.

7. E. Boyacı, A. E. Eroğlu, A. Çağır, Speciation of inorganic and organometallic arsenic species with home-made amino-functionalized SPME fibers, 12th International Symposium on Advances in Extraction Technologies (ExTech 2010), Poznan University of Life Sciences, Poznan, Poland, 19-22 September 2010.

6. Ş. G. Elçi, E. Boyacı, A. E. Eroğlu, Sampling and GC-MS Determination of volatile organic compounds in laboratory and houses by solid phase microextraction (SPME), I. Trace Analysis Workshop (EsAn-2010), Denizli, Pamukkale University Faculty of Arts and Sciences, Department of Chemistry, 22-25 April 2010.

5. E. Köşdere, E. Boyacı, A. Çağır, A. E. Eroğlu. Development of bifunctional solid phase extraction sorbents for speciation of vanadium and selenium in waters, I. Trace Analysis Workshop (EsAn-2010), Denizli, Pamukkale University Faculty of Arts and Sciences, Department of Chemistry, 22-25 April 2010.

4. C. Kocahakimoğlu, D.Turan, S. C. Sofuoğlu, E. Boyacı, A. E. Eroğlu. Use of chitosan-pumice hybrid sorbent for removal of As(V) from drinking waters, XI. National Spectroscopy Congress, Gazi University , Faculty of Arts and Sciences, Department of Chemistry, Ankara, Turkey, 23-26 June 2009.

3. E. Boyacı, A. E. Eroğlu, A. Çağır, T. Shahwan. Use of modified silicate for removal and speciation of As(III) and As(V) from waters, XI. National Spectroscopy Congress, Gazi University , Faculty of Arts and Sciences, Department of Chemistry, Ankara, Turkey, 23-26 June 2009.

2. E. Dönertaş, E. Boyacı, A. E. Eroğlu, A. Çağır, T. Shahwan. Use of amino and mercapto functionalized silicate for sorption of Se(IV) and Se(VI), XI. National Spectroscopy Congress, Gazi University , Faculty of Arts and Sciences, Department of Chemistry, Ankara, Turkey, 23-26 June 2009.

1. E. Boyacı, A. E. Eroğlu, T. Shahwan. Sorption of As(V) from waters using chitosan and chitosan-immobilized silicate matrix prior to atomic spectrometric determination, 6th Aegean Analytical Chemistry Days, Pamukkale University Denizli, Turkey, 9-12 October 2008.

Projects (only funded projects):

- Tubitak Turkish-Polish- Bilateral Collaboration 2549, Innovation in translational research: biocompatible microprobe devices for in vitro and in vivo cancer study (2021-2024)- **PI**
- H2020-MSCA-IF-2019, A Novel Handheld Probe Coupled to Mass Spectrometer as a Non-Invasive Tool for Fast in-vivo Diagnosis of Skin Cancer (2020-2022)- **PI**
- Tubitak 1001, Direct coupling of novel electrospun coated blade spray to mass spectrometry as a fast diagnostic tool for clinical applications (2020-2022) –**PI**
- BAP, Zirai ürünlerde çoklu pestisit kalıntısı analizi için ince film mikroekstraksiyon yönteminin geliştirilmesi (2020-2021)- **PI**
- Tubitak 3001, Development of non-invasive and biocompatible thin film microextraction contact lens-type devices compatible for in vivo metabolomics investigations from eye surface (2018-2020). –**PI- completed**
- Tubitak 2232, Development of high throughput SPME-LC-MS method for determination oxidative stress biomarkers (2018-2020). **–PI-completed**
- BAP Kariyer Destek, Biyo-yüzeylerden metabolomiks ve çoklu kalıntı analizleri için termal ve solvent desorpsiyonuna uygun esnek mikroekstraksiyon ince filmlerinin geliştirilmesi (2018-2020)–**PI- completed**
- Brain Canada, CQDM, Solid phase microextraction-based integrated platform for untargeted and targeted in vivo brain studies (2015-2018).
- Unilever, Cellomics: Development of automated SPME methodology for the determination of time-course free concentrations of chemicals in a range of 96-well plate in vitro assays (2014-2016).
- ORF, Water Round with Maxxam Analytics “Advanced Water Analytics for Emerging Critical Needs in the Water Monitoring Industry” (2011-2015).
- World Anti-doping Agency (WADA) Evaluation of Solid Phase Microextraction for Improved Multi-Residue Extraction and Analysis of Prohibited Substances by LC-MS-MS (2011-2013).
- Technological Research Council of Turkey (TÜBİTAK) Project No.108T798, Speciation of Metals and Organometals by Solid Phase Microextraction (SPME) and Solid Phase Extraction (SPE) and Determination by Chromatographic/Atomic Spectrometric Techniques, (01.04.2009- 01.04.2011).
- İzmir Institute of Technology, Research Project No. 2009İYTE18, Preparation of Novel Sorbents for Determination and Removal of Arsenic Species in Drinking Waters, (27.04.2009 - 31.12.2010).

Patents:

- Solid phase microextraction coatings based on fluorocarbon polymers (US Patent 10,545,077), J. Pawliszyn, E. Gionfriddo, E. Boyacı

Awards:

- Pfizer Travel Grant, 38th International Symposium on Capillary Chromatography (ISCC), Riva del Garda, Italy, 18–23 May 2014.

- 2nd rank in graduation from BSc (İzmir Institute of Technology, Department of Chemistry).

- ExTech 2010 best poster presentation (12th. International Symposium on Advances in Extraction Technologies, Poznan University of Life Sciences, Poznan, Poland), 19-22 September 2010.

- Trace Analysis Workshop (EsAn-2010) 3th award for poster presentation (University Faculty of Arts and Sciences, Department of Chemistry, Denizli, Turkey, 22-25 April 2010- Pamukkale).

Teaching Experience:

- Analytical Chemistry I (Chem 221), Instrumental Analysis I (Chem 322), spring semester 2021.

- Analytical Chemistry for Engineers (Chem 230), Analytical Chemistry I (Chem 221), fall semester 2020-2021.

- Analytical Chemistry for Engineers (Chem 230), Analytical Chemistry II (Instrumental Analysis I, Chem 322), spring semester 2020.

- Analytical Separation Methods (Chem 424), Middle East Technical University, fall semester 2019-2020.

- Analytical Chemistry for Engineers (Chem 230), Middle East Technical University, fall and spring semesters 2018-2019, fall semester 2019-2020.

- Advanced Topics in Analytical Chemistry (Chem 593), Middle East Technical University, fall semester 2017-2018.

- General Chemistry (Chem 112), Middle East Technical University, spring semester 2017-2018.

- General Chemistry (Chem 111), Middle East Technical University, fall semester 2017-2018.

- Guest Lecturer in University of Waterloo: September–October 2014, October 2016 (Analytical Separations, CHEMISTRY 420).

- Guest Lecturer in University of Waterloo: October 2013 (Separations, CHEM 727/7270).

- Sample Preparation Summer Course Lecturer:
  2017-Sample Preparation Summer Course, 3-6 July 2017, Chania, Crete, Greece (Focus on Extraction and Microextraction)
  2018-Sample Preparation Summer Course, 22-24 August 2018, Chania, Crete, Greece (Focus on Microextraction)
  2019-Sample Preparation Summer Course, 25-27 September 2019, Bydgoszcz, Poland (Focus on Biological Matrices)

- Solid Phase Microextraction Course Lecturer: December 2012 (University of Waterloo), May 2013(University of Waterloo), December 2013(University of Waterloo), March 2014 (Pittcon), December 2014(University of Waterloo), May 2015 (University of Waterloo), December 2015 (University of Waterloo), May 2016 (University of Waterloo), July 2016 (Nicolaus Copernicus University in Toruń), December 2016 (University of Waterloo), February 2017 and April 2017 (University of Waterloo).

- Short Course Lecturer: Sample preparation for clean oceans and seas (Lecture Topic: SPME in Water Investigations, Title of presentation: Application of Thin Film Microextraction for Water Analysis) (25 May 2014) 16th International Symposium on Advances in Extraction Technologies, Chania- Crete, Greece, 25-28 May 2014.

- Teaching Assistant 2005-2012, Izmir Institute of Technology: General Chemistry Laboratory (I and II), Organic Chemistry Laboratory (I and II), Analytical Chemistry Laboratory (I and II) and Instrumental Analysis Laboratory.

Supervised Students:

MSc

- Atakan Arda Nalbant, Development of non-invasive and biocompatible thin film micro-extraction contact lens-type devices compatible for in vivo metabolomics investigations from eye surface, **Graduated in September 2020**

- Merve Okutan, Direct coupling of electrospun coated blade spray to mass spectrometry for the determination of cancer biomarkers, continue

- Kübra Kahremanoğlu, Development of microextraction tools compatible with thermal and solvent desorptions suitable for targeted and untargeted analysis, continue

- Ezgi Rana Temel, Preparation of electrospun coated thin film extraction devices for determination of clinically important endogenous compounds in bio-fluids, continue

PhD

- Seray Ece Keskin (co-supervisor), Synthesis of Molecularly Imprinted Polymers for Bioanalytical Applications

Supervised undergraduates

- Hilal Atik
- Selin Özesen
- Kübra Kahremanoğlu
- Ezgi Rana Temel
- Tamara Ecem Korkut

Journal Referee:

- Analytica Chimica Acta
- Trends in Analytical Chemistry (TRAC)
- Analytical Chemistry Research
- Journal of Pharmaceutical and Biomedical Analysis
- Journal of Brazilian Chemical Society
- Analytical Chemistry
- Journal of Chromatography B
- Journal of Chromatography B
- Chromatographia
- Journal of Separation Science

Others:

- Organization committee member: X. National Spectroscopy Congress (USK2007), 4-7 July, 2007, İzmir Institute of Technology, Faculty of Science, Chemistry Department, İzmir, Turkey.
- EuChemS-DAC Sample Preparation Study Group and Network Committee Member
- Sustainable Chemistry and Pharmacy- Special Issue Guest Editor
- Advances in Sample Preparation- Editorial Advisory Board