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Department of Food Engineering, Izmir Institute of Technology, Gulbahce, Urla, Izmir, Turkey

EDUCATION

Ph.D., Chemical Engineering, University of California, Davis, September 2012.
M.S., Food Engineering, Middle East Technical University (METU), Ankara, TURKEY, September 2007.
B.S., Food Engineering, Middle East Technical University (METU), Ankara, TURKEY, June 2005.

RESEARCH INTERESTS

Molecular Modeling and Simulations of Polymeric, Biomolecular and Colloidal Systems
Applications of Nanoscience and Nanotechnology in Food Engineering
Layer-by-Layer Assembly
Food Hydrocolloids

PROFESSIONAL EXPERIENCES

Assistant Professor, Izmir Institute of Technology 2013-
Department of Food Engineering, Izmir, Turkey

Research Assistant, University of California, Davis 2010-2012
Department of Chemical Engineering & Materials Science, Davis, CA

Teaching Assistant, University of California, Davis 2008-2009
Department of Chemical Engineering & Materials Science, Davis, CA

FUNDED PROJECTS AND RESEARCH EXPERIENCE

"Exploring the Solubilization Mechanisms of Curcumin and Beta-carotene in Duodenal Mixed Micelles and the Modulating Factors Through Molecular Dynamics Simulations", **Principal Investigator**, Department of Food Engineering, IZTECH **,** TUBITAK- 118O378, (2018-present).

"Exploring the Food Applications of Time Domain (TD) Solid State NMR Techniques; Magic Sandwich Echo (MSE) and Spin Diffusion (SD) Sequences and Their Use on Developing New and Alternative Quality Control Techniques", **Investigator**, Department of Food Engineering, IZTECH, (Principal investigator: Assoc. Dr. Halil Mecit Öztop, METU Department of Food Engineering, TUBITAK- 217O089), (2018-present).

"Fabrication and Structural Characterization of Edible Coatings Obtained by Layer-by-Layer Deposition from Lysozyme and Iota-carrageenan"**, Principal Investigator**, Department of Food Engineering, IZTECH, 2017İYTE07 (2018-2019).

"Investigation of Structural and Dynamic Properties of Duodenal Mixed Micelles at Different Conditions by Molecular Dynamic Simulations"**, Principal Investigator**, Department of Food Engineering, IZTECH, 2016İYTE19 (2016-2017).

"Development of Novel Thin Edible Coatings For Fresh-Cut Fruits And Vegetables By Layer-By-Layer Deposition Technique", **Principal Investigator,** Department of Food Engineering, IZTECH, TUBITAK-114O696, (2014-2016).

"Fabrication and Characterization of Model Edible Nano-Coatings for Fresh-cut Fruits and Vegetables by Layer-by-Layer Assembly: Dipping vs. Spraying", **Principal Investigator**, Department of Food Engineering, IZTECH, 2014IYTE06, (2014-2015)**.**

"Structure-Property Relationships of Polymer Brushes in Restricted Geometries and Their Utilization as Ultra-Low Friction Lubricants", **Research Assistant**, Department of Chemical Engineering and Material Science, UC Davis (Principal Investigators: Prof. Dr. Tonya Kuhl & Prof. Dr. Roland Faller, Funded by USA Department of Energy- DE-FG02-06ER46340), (2006-2012).

"Extraction of Essential Oils from Spices Using Novel Technologies and Physical, Antioxidant and Antimicrobial Properties of These Oils", **Scholar**, Department of Food Engineering, METU, (Principal Investigator: Prof. Dr. Serpil Şahin, Funded by TUBITAK-104O265), (2005-2007).

DISSERTATIONS/THESIS SUPERVISED

Elif Erez, "Fabrication of colorimetric pH indicator films by electrospinning", **MSc. Thesis**, IZTECH, The Graduate School of Engineering and Sciences, Department of Food Engineering, (2019-present).

Nazan Koca, "Structure and gas transmission properties of surface modified food packaging materials by layer-by-layer assembly", **MSc. Thesis**, IZTECH, The Graduate School of Engineering and Sciences, Department of Food Engineering, (2015-2019).

Esra Tunçer, "Exploring the Factors Modulating Solubilization of β-carotene in Dietary Mixed Micelles through Computer Simulations", **PhD Dissertation**, IZTECH, The Graduate School of Engineering and Sciences, Department of Food Engineering, (2014 -2018).

Sinem Uney, "Comparison of Dipping and Spraying Methods in the Fabrication of Novel Edible Coatings by Layer-by-Layer Deposition", **MSc. Thesis**, IZTECH, The Graduate School of Engineering and Sciences, Department of Food Engineering, (2014 -2016).

PUBLICATIONS

Tuncer, E., & Bayramoglu, B. (2019). Characterization of the self-assembly and size dependent structural properties of dietary mixed micelles by molecular dynamics simulations. *Biophysical Chemistry*, *248* :16-27.

Bayramoglu, B., & Faller, R. (2013). Modeling of Polystyrene under Confinement: Exploring the Limits of Iterative Boltzmann Inversion. *Macromolecules*, *46*: 7957-7976.

Bayramoglu, B., & Faller, R. (2012). Coarse-Grained Modeling of Polystyrene in Various Environments by Iterative Boltzmann Inversion. *Macromolecules*, *45*:9205-9219.

Karakaya, S., El, S. N., Karagozlu, N., Sahin, S., Sumnu, G., & Bayramoglu, B. (2012). Microwave-assisted Hydrodistillation of Essential Oil from Rosemary. *Journal of Food Science and Technology. doi 10.1007/s13197-011-0610-y.*

Bayramoglu, B., & Faller, R. (2011). Structural Properties of Polystyrene Oligomers in Different Environments: A Molecular Dynamics Study. *Physical Chemistry Chemical Physics, 13*(40): 18107-18114.

Bayramoglu, B., Sahin, S., & Sumnu, S.G. (2009). Extraction of Essential Oil from Laurel Leaves by Using Microwaves. *Separation Science and Technology*, *44*: 722–733.

Bayramoglu, B., Sahin, S., & Sumnu, S.G. (2008). Solvent-free microwave extraction of essential oil from oregano. Journal of Food Engineering, 88(4): 535-540.

CONFERENCE PROCEEDINGS

Koca, N. & Bayramoglu, B. (2018). Development and characterization of surface-modified food packaging materials from lysozyme and gum arabic by layer-by-layer assembly. *5th International ISEKI-Food Conference, Stuttgart, Germany, 2018, (Oral presentation).*

Tuncer, E. & Bayramoglu, B. (2016). Investigation of mixed micelle structures formed by cholate and POPC at fasted state with molecular dynamics simulations. *30th EFFoST International Conference Targeted Technologies for Sustainable Food Systems, Vienna, Austria, 2016, (Oral presentation).*

Uney, S. & Bayramoglu, B. (2016). Structural properties of model ultrathin edible coatings from chitosan and sodium caseinate prepared by layer by layer assembly dipping versus spraying. *4th International ISEKI_Food Conference, Vienna, Austria, 2016.*

Bayramoglu, B. & Uney, S. (2015). Multilayered Edible Coatings from Chitosan and Sodium Caseinate by Layer-by-Layer Assembly. *4th International Conference and Exhibition on Food Processing and Technology*, London, UK, 2015.

Kacar, E. & Bayramoglu, B. (2014). Factors Affecting the Bioavailability of Carotenoids. *NAFI2014-International Congress Novel Approaches in Food Industry, Kusadasi, Turkey, 2014.*

Faller, R., & Bayramoglu, B. (2014). Exploring the Limits of the Iterative Boltzmann Inversion. *APS March Meeting, 2014, Denver, Colorado, 2014. (Oral presentation).*

Bayramoglu, B., & Faller, R. (2011). Coarse-Grained Modeling of Polystyrene at Different Concentrations Using the Iterative Boltzmann Inversion Technique. *APS March Meeting, 2011, Dallas, TX, 2011.*

Faller, R., Huang, D., Bayramoglu, B., & Moule, A. (2011). Systematic Multiscale Modeling of Polymers. *APS March Meeting, 2011, Dallas, TX, 2011. (Oral presentation).*

Bayramoglu, B., & Stroeve, P. (2010). Ultrathin Edible Coatings by Layer-By-Layer (LbL) Assembly Technique. *Annual Meeting of the Institute of Food Technologists (IFT), Chicago, IL, 2010. (Oral presentation).*

Faller, R., Elliot, I., Bayramoglu, B., Mulder, D., & Kuhl, T. (2010). Confined Polymer Systems: Synergies Between Simulations and Neutron Scattering Experiments. *Pacifichem 2010, International Chemical Congress of Pacific Basin Societies, Honolulu, HI. (Oral presentation).*

Bayramoglu, B., Sahin, S., & Sumnu, S.G. (2008). Microwave assisted hydrodistillation of essential oils from rosemary. *CIGR International Conference of Agricultural Engineering, Brazil, 2008.*

Bayramoglu, B., Sahin, S., & Sumnu, S.G. (2007). Solvent-free microwave extraction of essential oil from oregano. *3rd CIGR Section VI International Symposium on Food & Agricultural Products: Processing and Innovation, Naples, Italy, 2007.*

PROFESSIONAL DEVELOPMENT

"Martini Workshop". (2015). University of Groningen, Groningen, The Netherlands.

"International Workshop on Food Packaging: Balancing Functionality with Low Environmental Impact". (2014). Izmir Institute of Technology, Izmir, Turkey.

"ICMR Summer School on Nanoscale Science of Biological Interfaces". (2010). UCSB, Santa Barbara, CA.

HONORS AND AWARDS

Best Poster Award, 4th International Conference and Exhibition on Food Processing & Technology, London, UK, 2015.

Teaching Assistant of the Year, Department of Chemical Engineering & Materials Science, UC Davis, 2009.

Graduate Student Association (GSA) Travel Award, UC Davis, 2009.

International PhD Fellowship Program, TUBITAK, Ankara, 2007-2008.

Scholarship in The Support Program for Scientific and Technological Research Projects, TUBITAK, Ankara, 2006-2007.

COURSES

FE 204 Numerical Methods in Engineering
FE 302 Mass Transfer
FE 303 Thermodynamics
FE 544 Analytical Methods in Food Engineering (*Graduate*)