

CURRICULUM VITAE

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EDUCATION

BS in Food Engineering, Hacettepe University, Turkey 1988-1993

MS in Chemical Engineering University of Virginia, USA 1995-1998

PhD in Biotechnology, Middle East Technical University, Turkey 1999-2005

Post-doctoral study in Virology Ankara University, Turkey 2007

RESEARCH INTERESTS

- 1) Protein precipitation, gelation and stability in organic solvents.
- 2) Food and environmental virology.
- 3) Investigation of biological systems using Fourier Transform Infrared Spectroscopy.
- 4) Neutral Lipid metabolism in cancer.
- 5) Maillard Reaction Products, Carbonyls, and Melanoidins that form during heat processing of foods.

TEACHING EXPERIENCE

FE541 Food and Environmental Virology (Department of Food Engineering İzmir Institute of Technology İzmir Turkey).

FE503 Advanced Food Microbiology (Department of Food Engineering İzmir Institute of Technology İzmir Turkey).

CHE213 Microbiology (Chemical Engineering Department İzmir Institute of Technology İzmir Turkey).

BENG587 Neutral Lipid Metabolism in Health and Disease (Department of Bioengineering İzmir Institute of Technology İzmir Turkey).

FE307 Nutritional Biochemistry (Lipid Metabolism Part) (Department of Food Engineering İzmir Institute of Technology İzmir Turkey)

FE419 Instrumental Analyses in Food and Nutrition (Department of Food Engineering İzmir Institute of Technology İzmir Turkey).

FE590 Research Methods and Technical Report Writing (Department of Food Engineering İzmir Institute of Technology İzmir Turkey).

FE105 Introduction to Food Engineering (Department of Food Engineering İzmir Institute of Technology, İzmir, Turkey).

FE304 Food Enzymes (FE304 Food Enzymes (Department of Food Engineering İzmir Institute of Technology İzmir Turkey).

FE202 Fluid Mechanics (Department of Food Engineering İzmir Institute of Technology İzmir Turkey)

AWARDS

Best Poster Award, "Ponatinibin imatinib duyarlı ve dirençli kronik miyeloid lösemi (KML) hücrelerinde antiproliferatif ve apoptotik etkileri ile CH₂ gerilim bölgesindeki makromoleküller üzerindeki etkilerinin araştırılması: mekanistik bir yaklaşım", 2. Uluslararası katılımlı Deneysel Hematoloji Kongresi, 16-19 April, 2015, Melis Kartal Yardım, Çağatay Ceylan, Efe Elmas, Yusuf Baran.

PUBLICATIONS

Articles in Journals:

- 1. Aykut Ozkul**, Arife Erturk, Elvin Caliskan, Fahriye Sarac, Cagatay Ceylan, Peter Mertens, Ozden Kabakli, Ender Dincer, Sirin G. Cizmeci, 2009, Segment 10 based molecular epidemiology of bluetongue virus (BTV) isolates from Turkey: 1999-2001, Virus Research, Vol. 142, Issues 1-2, pp 134-139.
- 2. Cagatay Ceylan**, Mete Severcan, Faruk Bozoglu and **Feride Severcan**, 2009, Evaluation of High Hydrostatic Pressure Effects on Bovine Red Blood Cells and Platelets High Pressure Research, Vol. 29, No. 2, 358-368.
- 3. Derya Alkan**, Levent Yurdaer Aydemir, İskender Arcan, Hatice Yavuzdurmaz, Halil İbrahim Atabay, Cagatay Ceylan, **Ahmet Yemenicioğlu**, 2011, Development of flexible antimicrobial packaging materials against Campylobacter jejuni by incorporation of gallic acid into zein-based films, Journal of Agricultural and Food Chemistry, Vol 59, No:20, 11003-11010.
- 4. Cagatay Ceylan**, Feride Severcan, Aykut Ozkul, Mete Severcan, Faruk Bozoglu, Nusret Taheri, 2012, Biophysical and microbiological study of high hydrostatic pressure inactivation of Bovine Viral Diarrheavirus type 1 on serum, Veterinary Microbiology, Vol 154, No: 3-4, 266-271.

5. **Salih Okur**, Cagatay Ceylan, Evren Culcular, 2012, Humidity adsorption kinetics of a trypsin gel film, *Journal of Colloid and Interface Science*, Vol: 368, No: 1, 470-473.
6. **Cagatay Ceylan**, Aylin Camgoz, Yusuf Baran, Macromolecular changes in nilotinib resistant K562 cells; an *in vitro* study by Fourier Transform Infrared Spectroscopy, *Technology in Cancer Research and Treatment*, Volume 11, No.3, 333-344, August 2012.
7. **Yusuf Baran, Cagatay Ceylan**, Aylin Camgoz, The roles of macromolecules in imatinib resistance of chronic myeloid leukemia cells by Fourier transform infrared spectroscopy, *Biomedicine & Pharmacotherapy*, 67, 221-227, 2013.
8. **Cagatay Ceylan**, Tansel Tanrikul, Hüseyin Özgener, Biophysical evaluation of physiological effects of gilthead seabream (*Sparus aurata*) farming using FTIR spectroscopy, *Food Chemistry*, 145, 1055-1060, 2014.
9. Pinar Kadiroğlu, **Figen Korel, Cagatay Ceylan**, Quantification of *Staphylococcus aureus* in White Cheese by the Improved DNA Extraction Strategy combined with TaqMan and LNA Probes-Based qPCR, *Journal of Microbiological Methods* 105, 92-97, 2014.
10. Mehmet Emin Uslu, Oğuz Bayraktar, **Cagatay Ceylan**, Kinetic and structural characterization of interaction between trypsin and *Equisetum arvense* extract, *Turkish Journal of Biochemistry*, 39(4), 463–471, 2014.
11. **Cagatay Ceylan** and Bilge Karacicek, Structural and Functional Characterization of Solution, Gel, and Aggregated Forms of Trypsin in Organic Solvent-assisted and pH-induced Phase Changes, *Turkish Journal of Biochemistry*, 40 (1), 81-87, 2015.
12. Melis Kartal Yandım, Cagatay Ceylan, Efe Elmas, Yusuf Baran, A molecular and biophysical comparison of macromolecular changes in imatinib-sensitive and imatinib-resistant K562 cells exposed to ponatinib, *Tumor Biology*, 2015.

13. **Cagatay Ceylan**, Oguz Bayraktar, Arhan Atci, Şahin Sarrafi, Extraction and Characterization of Pectin from Fresh Globe Artichoke and Canned Artichoke Waste, The Journal of Food, 42 (5), 568-576, 2017.
14. Pınar Kadiroğlu, Figen Korel, Çağatay Ceylan. Identification of Staphylococcus aureus cheese isolates with respect to virulence properties, genetic relatedness and antibiotic resistance profiles, Food and Health, 5(3), 149-159 (2019).
15. 2'-methylklavuzon Causes Lipid-lowering Effects on A549 Non-Small Cell Lung Cancer Cells and Significant Changes on DNA Structure Evidenced by Fourier Transform Infrared Spectroscopy, **Cagatay Ceylan**, Hatice Nurdan Aksoy, Ali Cagır, Hakkı Çetinkaya, Vibrational Spectroscopy, 2020, <https://doi.org/10.1016/j.vibspec.2020.103148>.
16. Sahin, I., Ceylan, Ç., & Bayraktar, O. (2022). Ruscogenin interacts with DPPC and DPPG model membranes and increases the membrane fluidity: FTIR and DSC studies. Archives of Biochemistry and Biophysics, 109481.
17. Gürer, D. C., Vatansever, İ. E., Ceylan*, Ç., Akgül, B.*, Knockdown of death receptor 5 antisense long noncoding RNA and cisplatin treatment modulate similar macromolecular and metabolic changes in HeLa cells, 2022. * Corresponding Author.

International Conferences

1. Effect of Hydrostatic Pressure on Bovine Blood Protein and Lipid Constituents Revealed by Fourier Transform Infrared Spectroscopy. **Cagatay Ceylan**, Mete Severcan, Faruk Bozoglu, Feride Severcan. Wseas Transactions on Biology and Biomedicine, Iss 3, Vol 2, July 2005.
2. **Yusuf Baran**, Aylin Camgoz, Cagatay Ceylan. Analyses of Macromolecules in nilotinib resistance by Fourier Transform Infrared Spectroscopy. Haematologica, 16th Congress of European Hematology Association, June 9-12, London, United Kingdom, 96(s2), **2011**, p.90. (Poster Presentation).

3. **Yusuf Baran**, Aylin Camgoz, Cagatay Ceylan. The roles of Macromolecules in Imatinib Resistance in Chronic Myeloid Leukemia. *Haematologica*, 16th Congress of European Hematology Association, June 9-12, London, United Kingdom, 96(s2), **2011**, p.607. (Abstract).
4. Melis Kartal Yandım, Cagatay Ceylan, Efe Elmas, Yusuf Baran, Antiproliferative and Apoptotic Effects of Ponatinib and Its Effects on Macromolecular Changes in Imatinib-Sensitive and -Resistant Chronic Myeloid Leukemia (CML) Cells Lines: A Mechanistic Approach, Mayıs, 20th Congress of European Hematology Association, 2015, Vienna (Eposter Presentation).

National Conferences

1. Yusuf Baran and **Çağatay Ceylan**, İmatinib Dirençliliğinin K562 Hücreleri Üzerindeki Etkilerinin Fourier Transform İnfrared Spektroskopi (FTIR) Yöntemiyle İncelenmesi (Investigation of the Effects of Imatinib Resistance on K562 cells), 35. Ulusal Hematoloji Kongresinde poster sunumu, 8 – 10 Ekim 2009, Alanya (Poster Presentation).
2. Özgür Tarhan, İskender Arcan, Handan Baysal, **Çağatay Ceylan**, Şebnem Harsa, Türkiye’de ve Dünyada Gıda Mühendisliği Eğitimi (Food Engineering Education in Turkey and in the World), 6. Ulusal Gıda Mühendisliği Kongresi, 6-8 Kasım 2009, Kemer Antalya, (Poster Presentation).
3. Investigation of Process Parameters for The Purification of Antioxidants and Pectin From Vegetables, Erhan ATCI, Şahin SARRAFİ, Çağatay CEYLAN, Oğuz BAYRAKTAR, Poster Presentation for a undraduate graduation Project, İzmir Institute of Technology, June 4, 2010.
4. Humidity Sensing Properties of an Isopropanol-induced and Alkaline pH-triggered Bovine Pancreatic Trypsin Film, Oral Presentation, Cagatay Ceylan, Salih Okur, Evren Culcular, Nano Tr-VI 6. Nanoscience and Nanotechnology Conference, June 15, 2010, Çeşme, İzmir (Oral Presentation).

5. Nilotinib Dirençliliğinin K562 Hücreleri Üzerindeki Etkilerinin Fourier Transform Infrared Spektroskopi (FTIR) Yöntemiyle İncelenmesi. Aylin CAMGOZ¹ Çağatay CEYLAN² Yusuf BARAN¹ (Turkish) (Poster Presentation). 36th National Turkish Hematology Association Congress, 3-6 November 2010, Antalya, Turkey.
6. Direct Detection of *Campylobacter jejuni* from Chicken Rinses using Locked Nucleic Acid (LNA) Probe-Based Real Time PCR, C. Canal, H.I. Atabay, C. Ceylan, May 27, 2011, Novel Approaches in Food Industry, International Food Congress (NAFI 2011) Çeşme İzmir, (Poster Presentation).
7. "TaqMan Probes based RT-PCR Method for the Quantitative Detection of *Staphylococcus aureus* in Traditional Cheese Samples of İzmir District", Pınar KADİROĞLU, Figen KOREL, Çağatay CEYLAN, FoodMicro 2012 İstanbul (Poster Presentation).
8. "Investigation of Antioxidant Properties in Different Dissections of Artichoke", Sahin Sarrafi, Erhan Atci, Murat Onur Aslan, Çağatay Ceylan, Oguz Bayraktar, 2. Ulusal Moleküler Biyoloji ve Biyoteknoloji Kongresi, 15-18 Kasım 2012, Antalya, (Poster Presentation).
9. "Ponatinib'in İmatinib Duyarlı ve Dirençli Kronik Miyeloid Lösemi (KML) Hücrelerinde Antiproliferatif ve Apoptotik Etkileri ile CH2 Gerilim Bölgesindeki Makromoleküller Üzerindeki Etkilerinin Araştırılması: Mekanistik Bir Yaklaşım", Melis Kartal Yandım, Çağatay Ceylan, Efe Elmas, Yusuf Baran, Deneysel Hematoloji Kongresi, 16-19 Nisan 2015, Kayseri (Poster Presentation).
10. Pınar Kadiroğlu, Figen Korel, Çağatay Ceylan, "Peynir Örneklerinden İzole Edilen *Staphylococcus aureus* Suşlarının Fenotipik ve Genotipik Özelliklerinin Belirlenmesi", İç Anadolu Bölgesi 2. Tarım ve Gıda Kongresi, 28-30 Nisan 2015, Nevşehir.

Chapters in Books:

1. Advances in Food Biochemistry - Nucleic Acid Biochemistry: Food Applications, Işıl Kurnaz and Çağatay Ceylan, Chapter 6, pp 203 - 218, CRC Press, Editor Fatih Yildiz, 2010.
2. Atabay, H.I., Corry, J.E.L. ve **Ceylan, C.**, "Arcobacter", Encyclopedia of Food Safety, Chapter 83 (Chapter in an e-book/encyclopedia).
3. Ceylan, Ç., "Arcobacter", Encyclopedia of Food Safety, January 2023, in book: Reference Module in Food Science (Chapter in an e-book/encyclopedia), DOI: 10.1016/B978-0-12-822521-9.00033-2.

PROJECTS

1. "Structural and Kinetic Investigation of Protein Precipitation and Stability", 2008İYTE22, BAP Project, 2008–2009, (Completed).
2. "Detection of *Campylobacter jejuni* using Locked Nucleic Acid (LNA) Probes", 2010İYTE10, BAP Project, 2010, (Completed).
3. "Structural, functional and rheological characterization of an isopropanol-dependent and pH-induced trypsin gelation process and the thin layer formed on the solid surfaces and its biotechnological applications", 2011İYTE11, BAP Project, 2012, (Completed).
4. "Investigation of antibiotic resistance profiles of *Staphylococcus aureus* strains isolated from cheeses from İzmir District", 2012İYTE10, BAP Project, (Completed).
5. "Detection of *human rotaviruses* in shellfish samples in İzmir District", 2013İYTE10, BAP Project, 2015, (Completed).
6. "Detection of *human rotaviruses* in Date Palm Fruit", 2014İYTE07, BAP Project, 2015, (Completed).
7. "Comparison of *human Rotavirus* RNA extraction methods from shellfish meat", 2015İYTE07, BAP Project, May 2016, (completed).

8. "Comparison of plant based foods using FTIR Spectroscopy", 2016İYTE61, BAP Project , December 2017, (Completed).
9. "Biochemical and Biophysical Investigation of Lipid Peroxidation in Foods", 2017İYTE18.
10. "Statinlerin Kanser Hücreleri Üzerindeki Oksidatif Stres Etkilerinin in vitro Değerlendirilmesi", 2019İYTE0218, **Proje Yürütücüsü**, 1 Nisan 2020.
11. "Kek Yapımında Transglutaminaz Enzimi Kullanımının Karbonil Oluşumuna ve Kek Özelliklerine Etkisi", 2020İYTE0065, **Proje Yürütücüsü**, 1 Temmuz 2021.
12. "Biyoaktif Doğal Bileşik Ruscogenin'in Model Membranlarla Etkileşiminin Biyofiziksel Yöntemler ile Moleküler Düzeyde İncelenmesi", Araştırmacı, Ege Üniversitesi BAP Projesi, (tamamlandı).
13. "Luteolinin Akut Lemfoblastik Lösemi (ALL) Hücreleri Üzerindeki Etkilerinin Fourier Dönüşümlü Kızılötesi (FTIR) Spektroskopisi ile Belirlenmesi, 2021İYTE-1-0105 Yürütücü, (devam etmektedir).
14. "Pekmez Üretiminde Farklı Maserasyon, Asit Giderme ve Evaporasyon Uygulamalarının Kalite ve Toksik Bileşik Miktarları Üzerine Etkilerinin İncelenmesi", TAGEM Projesi, (Devam etmektedir), Başlama Tarihi: 01.01.2022.
15. "Ekmek, glukoz-glisin ve glukoz-arjinin model sistemlerinden elde edilen melanoidinlerin fonksiyonel ve yapısal özelliklerinin incelenmesi", BAP Projesi, (Tamamlandı), Başlama Tarihi: 9.6.2022. Bitiş Tarihi: 9.6.2023
16. "Biyofiziksel yaklaşımlarla meme kanseri hücre modelinde m1A ve m6A RNA metilasyonlarının araştırılması", Araştırma Üniversiteleri Destek Programı Projesi, İYTE, Araştırmacı, (Devam Etmektedir), Başlama Ta.rihi: 2022.
17. "Bazı önemli bakliyat ürünlerinden antiproliferatif ve antimikrobiyal etkiye sahip melanoidin eldesi ve bu malzemenin yapısal ve fonksiyonel karakterizasyonu", AÜDP-2023, Araştırma Üniversiteleri Destek Programı Projesi, İYTE, Yürütücü, (Devam etmektedir).

18. “Kek Üretiminde Bakla Protein İzolatlarının Yumurta İkamesi Olarak Kullanılması”, BAP Projesi, Başlama Tarihi: 3.7.2023, Bitiş Tarihi: 3.7.2024.
19. “Ekşi maya ekmeği protein hidrolizatları ve şeker kombinasyonu ile oluşan melanoidinlerin eldesi ve antimikrobiyel, antibiyofilm, antioksidan, antiproliferatif ve apoptotik ve fonksiyonel aktivitelerinin ve yapısal karakterizasyonu”, 2023İYTE-2-0022 AÜDP Projesi, Araştırmacı (Devam etmektedir), Başlama Tarihi: 2024.
20. “Nohut Protein İzolatlarının Yumurtasız Keklerde Soya Alternatifi Olarak Kullanılması”, BAP Projesi, Yürütücü, (Devam etmektedir). Başlama Tarihi: 15.7.2024

PROJECTS INVOLVED

- 1- "The effect of hydrostatic pressure on the whole blood and blood components" (Middle East Technical University, BAP-2004-07-02-00-48, as researcher), (2004-2005).
- 2- “*Bluetongue virus* molecular epidemiology in Turkey and prophylactic approaches” (TÜBİTAK, TOVAG 105O241), (2007).