



**Prof. Dr. Elif DEMİRKAN**

**Telefon** : 0 224 2941794  
**Fax** : 0 224 2941899  
**E-posta** : [edemirkan@uludag.edu.tr](mailto:edemirkan@uludag.edu.tr)

### ACADEMIC BACKGROUND

- B. Sc** : Hacettepe University, Faculty of Science, Biology Department., Ankara, 1986.  
**M. Sc** : Hacettepe University Graduate School of Natural and Applied Sciences, Ankara, 1988.  
**Ph. D** : Ankara University, Graduate School of Natural and Applied Sciences, Ankara , 1995.

### RESEARCH AREAS

Molecular Biology, Biotechnology, Biochemistry, Microbiology

### FELLOWSHIPS

1996-1998: The Scientific and Technical Research Council of Turkey, (TUBITAK), Post-doctoral position at Kyoto University, The Research Institute for Food Science, Japan.  
Research Scholarship at Kyoto University for post-doctoral position at Kyoto University, The Research Institute for Food Science, Japan

2001-2003: Research assistant at Maryland University, Center for Advanced Research in Biotechnology (CARB), Structural Genomic Project, Rockville-USA

### PUBLICATIONS

Sarıkaya E., Çırakoğlu Ç. (1990). *Bacillus subtilis* Kültürüne Mikrotaşıyıcıların Uygulanması. Mikrobiyoloji Bulteni. 24 (2):140-143.

Sarıkaya E., Çırakoglu C. (1989). Investigation of Alpha-Amylase Production from *Bacillus subtilis* in Different Media. Commun. Fac. Sci. Univ. Ank Series C, 7: 31-37.

Yiğit N., Özlük A., Sarıkaya E. (1990). Morfin Sülfatın Fare Derisi ve Mezenterindeki Mast Hücreleri Üzerine Etkisi. H.Ü Tıp Fak. Fizyoloji Bülteni. 2 (3): 115-121.

Doğan HB., Sarıkaya E., Halkman AK. (1996). Enterobacter İdentifikasyonunda Birleştirilmiş Testler Üzerine Bir Araştırma. Gıda. 21(6):431-434.

Sarıkaya E. (1998). Proteinlerin X-Işını Kristallografisi. Turkish Journal of Biochemistry-Türk Biyokimya Dergisi. 23(4): 33-36.

Sarıkaya E., Mikami B. (1998). *Trichoderma viride*'den Sellulaz II-B formunun X-Işını Kırınım Analizi için Kristallizasyon Çalışmaları. Turkish Journal of Biochemistry-Türk Biyokimya Dergisi. 23(3), 3-5.

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Sarikaya E., Gürgün V. (1998). Karbon/Azot'ca Zengin Ortamlarda *Bacillus*  $\alpha$ -Amilaz Üretimi ve Amilaz ile Proteaz Üretimi Arasındaki İlişkinin Araştırılması. KÜKEM Dergisi. 21(3): 49-54.

Sarikaya E. (1999). Mutajenik Ajanların Kullanımı ile Bazı *Bacillus* Suşlarından  $\alpha$ -Amilaz Üretimi Arttırılmış Mutantların Elde Edilmesi. Biyoteknoloji (KUKEM). 22(2):27-34.

Mikami B., Adachi M., Kage T., Sarikaya E., Nanmori T., Shinke R., Utsumi S. (1999). Structure of Raw Starch-Digesting *Bacillus cereus*  $\beta$ -Amylase Complexed with Maltose. Biochemistry. 38 (22): 7050-7061.

Sarikaya E. (2000). Determination of Starch Hydrolysis Splits by *Bacillus*  $\alpha$ -Amylase Enzyme Depend on Time. Biyoteknoloji. 24(2):15-19.

Sarikaya E., Gurgun V. (2000). Increase of the  $\alpha$ -Amylase Yield by Some *Bacillus* Strains. Turkish Journal of Biology. 24: 299-308.

Sarikaya, E., Higasa, T., Adachi, M., Mikami, B. (2000). Comparison of Degradation Abilities of  $\alpha$ - and  $\beta$ -Amylases on Raw Starch Granules. Process Biochemistry. 35(7):711-715

Sarikaya E., Mikami B. (2001). Purification and Crystallization of  $\alpha$ -Amylases from Mucoid and non-Mucoid *B.amyloliquefaciens* Strains. Journal of Crystal Growth, 232: 418-420.

Cihangir N., Sarikaya E. (2004). Investigation of Lipase production by a New Isolate of *Aspergillus sp.* World Journal of Microbiology and Biotechnology. 20:193-197.

Lim K., Sarikaya E., Galkin A., Krajewski W., Pullalarevu S., Shin JH., Kelman Z., Howard A., Herzberg O. (2004). Novel Structure and Nucleotide Binding Properties of HI1480 from *Haemophilus influenza*: A protein with no known sequence homologues. Proteins: Structure Function, and Bioinformatics. 56: 564-571.

Galkin A., Kulakova L., Sarikaya E., Lim K., Howard A., Herzberg O. (2004). Structural Insight Arginine Degradation by Arginine Deliminase, an Antibacterial and Parasite Drug Target. The Journal of Biological Chemistry. 279(14): 14001-14008.

Galkin A., Sarikaya E., Lehmann C., Howard A., Herzberg O. (2004). X-Ray Structure of HI0817 from *Haemophilus influenza*: Protein of unknown with a novel fold. Proteins: Structure Function, and Bioinformatics. 57: 874-877.

Telpakov A., Obmolova G., Sarikaya E., Pullalarevu S., Krajewski W. Galkin A., Howard A., Herzberg O., Gilliland GL. (2004). Crystal Structure of the Ygfs protein from *E.coli* suggests a folate-dependt regulatory role in one-carbon metabolism. Journal of Bacteriology. 186(21):7134-7140.

Aslim B., Yuksekdog Z N., Sarikaya E., Beyatli Y. (2005). Determination of the bacteriocin-like substance produced by some lactic acid bacteria originated from Turkish dairy products. LWT-Food Science and Technology, 38:691-694.

Lim K., Doseeva V., Demirkan Sarikaya E., Pullalarevu S., Krajewski W., Galkin A., Howard A., Herzberg O. (2005). Crystal Structure of the Ygfy from *Escherichia coli*, A protein that may be Involved in Transcriptional Regulation. Proteins: Structure Function, and Bioinformatics. 58:759-763.

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Demirkan Sarikaya E., Mikami B., Adachi M., Higasa T., Utsumi S. (2005). Amylase from *B.amyloliquefaciens*: purifications, characterization, raw starch degradation and expression in *E.coli*. *Process Biochemistry*. 40:2629-2636.

Ban M., Yoon HJ., Demirkan E., Utsumi S., Mikami B., Yagi F. (2005). Structural Basis of a Fungal Galectin from *Agrocybe cylindracea* for Recognizing Sialoconjugate. *Journal of Molecular Biology*. 351: 695-706.

Mikami B, Iwamoto H, Malle D, Yoon HJ, Demirkan-Sarikaya E, Mezaki Y, Katsuya Y. (2006). Crystal structure of pullulanase: Evidence for parallel binding of oligosaccharides in the active site. *Journal of Molecular Biology*. 359 (3): 690-707.

Ramprakash J., Doseva V., Galkin A., Krajewski W., Muthukumar L., Pullalarevu S., Demirkan E., Herzberg O., Moulton J., Schwarz FP. (2008). Comparison of the chemical and thermal denaturation of proteins by a two-state transition model. *Analytical Biochemistry*. 374 (1): 221-30.

Demirkan E. (2009). *Bacillus subtilis*  $\alpha$ -amilaz Enziminin Nişasta Granüllerine Etkisinin Taramalı Elektron Mikroskopu ile İncelenmesi. *U. Ü. Ziraat Fakültesi Dergisi*. 23: 13-19.

Dincbas S., Demirkan E. (2010). Comparison of Hydrolysis Abilities onto Soluble and Commercial Raw Starches of Immobilized and Free *B. amyloliquefaciens*  $\alpha$ -amylase. *U.U. Journal of Biological and Environmental Sciences*. 4(11): 87-95.

Sevinc N., Demirkan E. (2011). Production of Protease by *Bacillus* sp. N-40 Isolated from Soil and Its Enzymatic Properties. *U.U. Journal of Biological and Environmental Sciences*. 5(14): 95-103

Demirkan E. (2011). Production, Purification and Characterization of  $\alpha$ -amylase by *Bacillus subtilis* and its Mutant Derivate. *Turkish Journal of Biology*. 35: 705-712.

Demirkan E., Dincbas S., Sevinc N., Ertan F. (2011). Immobilization of *B. amyloliquefaciens*  $\alpha$ -amylase and comparison of some of its enzymatic properties with the free form. *Romanian Biotechnological Letters*, 16(6), 6690- 6701.

Usta A., Demirkan E. (2013). The Effect of Growth Parameters on the Antibiotic Activity and Sporulation in *Bacillus* spp. Isolated from Soil. *Journal of Microbiology, Biotechnology and Food Sciences*. 2 (5) 2310-2313.

Aynur Aybey, Alev Usta, Elif Demirkan. (2014). Effects of Psychotropic Drugs as Bacterial Efflux Pump Inhibitors on Quorum Sensing Regulated Behaviors. *J Microbiol Biotech Food Sci*. 4 (2) 128-131.

Demirkan E. Baygın E, Usta A. (2014). Screening of phytate hydrolysis *Bacillus* sp. isolated from soil and optimization of the certain nutritional and physical parameters on the production of phytase. *Turkish Journal of Biochemistry–Turk J Biochem*. 39 (2) ; 206–214 .

Dilek Murat, Elif Demirkan, Tuba Sevgi, Eren Baygın.(2015). Optimization of Phytase Production by New Isolate *Bacillus* sp. EBD 9-1 Strain using Statistical Experimental Design. *J. Biol. Environ. Sci*. 9(26), 93-100.

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---

Aynur Aybey, Elif Demirkan.(2016). Inhibition of Quorum Sensing-Controlled Virulence Factors in *Pseudomonas aeruginosa* by Human Serum Paraoxonase (hPON1).Journal of Medical Microbiology. 65, 105–113.

Aybey., A., Demirkan E.(2016). Inhibition of *Pseudomonas aeruginosa* biofilm formation and motilities by human serum paraoxonase (hPON1). AIMS Microbiology, 2 (4): 388-401.

Elif Demirkan, Tuba Sevgi, Merve Başkurt.(2016). Optimization of Physical Factors Affecting the Production of the  $\alpha$ -Amylase from a Newly Isolated *Bacillus* sp. M10 Strain. Karaelmas Fen Müh. Derg.6(2):1-8.

D. İnci, R. Aydın, D. Yılmaz, T. Sevgi, Ö. Vatan, Y. Zorlu, B. Çoşut, Y.Yerli, E. Demirkan, N. Çinkılıç. (2017). Synthesis and crystal structures of novel copper(II) complexes with glycine and substituted phenanthrolines: Reactivity towards DNA/BSA and in vitro cytotoxic and antimicrobial evaluation. Journal of Biological Inorganic Chemistry, J Biol Inorg Chem. 22:61–85.

Duygu İnci, Rahmiye Aydın, Tuba Sevgi, Yunus Zorlu, Elif Demirkan.(2017). Synthesis, crystal structure, stability studies, DNA/albumin interactions and antimicrobial activities of two Cu(II) complexes with amino acids and 5-nitro-1,10-phenanthroline. Journal of Coordination Chemistry. 70: 3, 512–543.

Elif Demirkan, Tuba Sevgi, Dilara Akcakoca, Figen Ersoy.(2017). Partial purification, characterization and wheat bran degradation studies of a new phytase from the *Bacillus megaterium* EBD 9-1 strain. Turkish Journal of Biochemistry–Turk J Biochem. 42(3): 329–337.

Yakup Aykut, Tuba Sevgi, Elif Demirkan.(2017).Cellulose monoacetate/polycaprolactone and cellulose monoacetate/polycaprolactam blended nanofibers for protease immobilization. J. Appl. Polym. Sci. 134 (44):Article Number: 45479.

Elif Demirkan, Tuba Avci and Yakup Aykut.(2018). Protease immobilization on cellulose monoacetate/chitosan-blended nanofibers. Journal of Industrial Textiles. 47(8):2092-2111. DOI: 10.1177/1528083717720205

Yakup Aykut, Ezginur CAM, Nilay Aladag Tanik, İdris Cerkez, Elif Demirkan.(2018).Guanine oxidation signal enhancement in single strand DNA with polyacrylonitrile/polyaniline (PAN/PAni) hybrid nanofibers. Journal of Applied Polymer Science. 135 (3), Article Number: 45567,DOI: 10.1002/app.4556.

Nilay Aladag Tanik, Elif Demirkan, Yakup Aykut.(2018). Guanine oxidation signal enhancement in DNA via a polyacrylonitrile nanofiber-coated and cyclic voltammetry-treated pencil graphite electrode. Journal of Physics and Chemistry of Solids. 118:73-79, DOI: 10.1016/j.jpcs.2018.03.001

## CONGRESSES

Sarıkaya E., Gürgün V. (1996). Bakteriyel  $\alpha$ -amilaz Enzimi Separasyonunda Sıvı ikili-Faz Sisteminin Kullanılma Olanakları. XIII. Ulusal Biyoloji Kongresi. Biyoteknoloji, Mikrobiyoloji, Moleküler Biyoloji ve Genetik Seksiyonu. Cilt:II. Sayfa: 197-207, İstanbul.

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Sarıkaya E. (1999). *Bacillus subtilis*  $\alpha$ -Amilaz Enziminin Hidrofobik ve iyon Değişim Kromatografisi Yoluyla Saflaştırılması ve Karakterize Edilmesi. I. Ulusal Kromatografi Kongresi, Kırıkkale.

Sarıkaya, E., Gürgün, V. (1999). Bazı Stres Faktörlerin *Bacillus*  $\alpha$ -Amilaz Enziminin Hücreden Salınması Üzerine Etkileri. KÜKEM-Biyoteknoloji Kongresi, Isparta.

Özkaya MT., Sarıkaya E. (1999). Zeytin Çeliklerinde Adventif Kök Oluşumu süresince Amilaz Değişimi. KÜKEM- Biyoteknoloji Kongresi, Isparta.

Sarıkaya E. (1999). İnce Tabaka Kromatografisi ile  $\alpha$ -Amilaz Tarafından Nişasta Hidroliz Ürünlerinin Zamana Bağlı Olarak Tespiti ve Farklı Sıcaklıklardaki Depolanma Seyri. 2000'li Yıllarda Gıda Bilimi ve Teknolojisi Kongresi, İzmir.

Sarıkaya E. (2000). *Klebsiella pneumoniae*'den Pullulanaz Enziminin Kristallizasyon Çalışmaları. XV. Ulusal Biyoloji Kongresi (Uluslararası Katılımlı), Ankara.

Sarıkaya E., Mikami, B. (2000). *B. subtilis*  $\alpha$ -Amilaz Enziminin aktif Alanının Tespiti. XV. Ulusal Biyoloji Kongresi (Uluslararası Katılımlı), Ankara.

Sarikaya E., Mikami B. (2000). Purification and Crystallization of alpha-amylases from Mucoïd and non-Mucoïd *B. amyloliquefaciens* Strains. 8th International Conference on the Crystallization of Biological Macromolecules, Florida, USA.

Mikami B., Yoshigi N., Yoon HJ., Adachi M., Sarikaya E., Sekine A., Utsumi S. (2000). Structural comparison of soybean, barley, and *Bacillus cereus* beta-amylases. Pacificchem 2000, International Chemical Congress of Pacific Basin Societies, Honolulu, Hawaii.

Yoon HJ, Adachi M, Hirata A., Kage T., Sarikaya E., Utsumi S., Mikami B. (2000). X-ray crystallographic analysis of *Bacillus cereus* beta-amylase and its C-terminal starch binding domain. Pacificchem 2000, International Chemical Congress of Pacific Basin Societies, Honolulu, Hawaii.

Sarıkaya E. Yılmaz S., Özcan B. (2001). Asit ile Muamele Edilmiş Ham Mısır Nişastasının  $\alpha$ -Amilaz Enzimi Tarafından Parçalanma Yeteneğinin Araştırılması. XII. Biyoteknoloji Kongresi, Balıkesir.

Mikami B., Yoon HJ., Sarikaya E., Iwamoto H., Mezaki Y., Katsuya Y. (2001). The Crystal Structure of *Klebsiella pneumoniae* pullulanase in Complex with Product Maltooligosaccharides. American Crystallographic Association (ACA) 2001 Annual Meeting, Los Angeles, California, USA.

Mikami B., Adachi M., Sekine A., Yoon HJ., Sarikaya E., Hirata A., Utsumi S., Katsuya Y., Iwamoto H. (2001). X-ray Crystallography and Protein Engineering of Amylases. Annual Meeting of Japan Society for Bioscience, Biotechnology and Agrochemistry (JSBA) 2001, Kyoto, Japan.

Iwamoto H., Yoon HJ, Sarikaya E., Katsuya Y., Mezaki Y., Mikami B.(2001). Active Site Structure of *Klebsiella Pullulanase*. Annual Meeting of Japan Society for Bioscience, Biotechnology and Agrochemistry (JSBA) 2001, Kyoto, Japan.

Mizuho B., Yoon HJ., Sarikaya E., Fumio Y., Mikami B.(2002). X-Ray Crystal Analysis of a Fungal Galectin, *Agroclybe Clindracea* Lectin. Annual Meeting of Japan Society for Bioscience, Biotechnology and Agrochemistry (JSBA) 2002, Sendai, Japan.

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Mikami B., Malle D., Yoon HJ., Demirkan-Sarikaya E., Iwamoto H., Katuya Y., Murata K., Utsumi S. (2006). X-ray crystallographic analysis of type I pullulanases from *Klebsiella pneumoniae* and *Bacillus subtilis*. 23rd European Crystallographic Meeting, ECM23, Belçika.

Mikami B., Iwamoto H., Malle D., Yoon HJ., Demirkan-Sarikaya E., Takeshi M.(2006). X-ray crystallographic analysis of the *Klebsiella* pullulanase. Annual Meeting of Japan Society for Bioscience, Biotechnology and Agrochemistry (JSBA) 2006, Kyoto, Japan.

Demirkan E., Dinçbaşı S., Sevinç N. (2009). *Bacillus subtilis*  $\alpha$ -Amilaz Enziminin Ca-Alginat Kapsüllerinde İmmobilizasyonu. 23. Ulusal Kimya Kongresi, Sivas.

Usta A., Demirkan E. (2012).Türkiye Topraklarından Antibiyotik Potent *Bacillus* sp.' lerin Taranması ve Antibiyotik Üretimi Üzerine Glukoz Konsantrasyonunun Etkisi.21.Ulusal Biyoloji Kongresi (Uluslararası katılımlı), 3-7 Eylül 2012, İzmir.

Eren Baygın, Dilara Akçakoca, Behice Zeren, Elif Demirkan.(2014). Türkiye Topraklarından Fitaz Üreten *Bacillus* sp.'lerin İzolasyonu Ve Besinsel Parametrelerin Fitaz Üretimi Üzerine Etkilerinin Araştırılması. 22.Ulusal Biyoloji Kongresi (Uluslararası katılımlı), 23-27 Haziran, Eskişehir.

Eren Baygın, Alev Usta, Elif Demirkan.(2014). Fitaz Üreten Yeni İzolat *Bacillus* sp. EBD 9-1 'nin Kültür Şartlarının Optimizasyonu Ve Enzimin Depolanma Stabilitesi. 22.Ulusal Biyoloji Kongresi (Uluslararası katılımlı), 23-27 Haziran, Eskişehir.

Aynur Aybey, Elif Demirkan, Selma Sinan.(2014). Disruption of *Pseudomonas aeruginosa* biofilms by human serum paraoxonase 1 (hPON1). 3. International Congress of Molecular Biology Association of Turkey, September 10-12, İzmir.

Doğan M., Baygın E., Kut, D., Demirkan E.(2015). Yünlü kumaşın fiziksel özellikleri üzerine yeni izolat *Bacillus* sp. suşundan elde edilecek proteaz enziminin etkisinin araştırılması. 15. Tekstil Teknolojisi ve Kimyasındaki Son Gelişmeler Sempozyumu, 14-16 Mayıs, Bursa.

Usta A., Avcı T., Demirkan E. (2015).Türkiye Topraklarından Antimikrobiyal Madde Üreten *Bacillus* Sp.' lerin Taranması ve İzolasyonu.Prof. Dr. Ömer Fethi Tezok Mikrobiyoloji Ve Enfeksiyon Hastalıkları Sempozyumu- XI Laboratuvardan Kliniğe Bakterilerde Antibiyotik Direnci, 17 Nisan, Bursa.

Avcı T., Baygın E., Demirkan E.(2015). Türkiye Topraklarından Petrol Türevlerini Parçalama Yeteneğine Sahip *Bacillus* sp. Suşlarının Taranması ve İzolasyonu. 11. Ulusal Çevre Mühendisliği Kongresi, 15-17 Ekim, Bursa.

Demirkan E., Baygın E., Kut, D., Doğan M.(2015). Industrial scale production of the protease enzyme and applicability in textile industry.(Proteaz Enziminin Endüstriyel Ölçekte Üretilmesi ve Tekstil Endüstrisinde Uygulanabilirliği), VII. Uluslararası Ar-Ge Proje Pazarı (International R&D Brokerage Event), 27-29 Mayıs,2015, Bursa.

Kut D., Demirkan E., Baygın E., Doğan M.(2015). An Investigation of the effect of phytic acid on chelating and flame retardent (Fitik Asitin İyon Tutuculuk ve Güç Tutuşurluk Üzerine Etkilerinin Araştırılması). VII. Uluslararası Ar-Ge Proje Pazarı (International R&D Brokerage Event), 27-29 Mayıs,2015, Bursa.

---

---

Aykut Y., Baygın E., Demirkan E., Çevik H. (2015). Evaluation Of Fine Fiber Structures As An Affinity Material For Enzymes. AUTEK 2015, 15th World Textile Conference, June 10th – 12th, Bucharest, Romania.

Sevgi T., Demirkan E.(2015). *Chlamydomonas reinhardtii*'nin ışık stresi karşısında gösterdiği hücresel yanıtın ami-RNA teknolojisinden yararlanılarak incelenmesi. 18. Ulusal Biyoteknoloji Kongresi. 18-19 Aralık 2015, Konya.

Sevgi T., Aykut Y., Demirkan E., Güler BE, Özalpar B.(2016). Ticari Proteaz Enzim İmmobilizasyonunda Kendiliğinden Lifsi Yapıların Kullanımı. 1. Uluslararası Lif ve Polimer Araştırma Sempozyumu.13-14 Mayıs, Bursa.

Demirkan E, Aykut Y, Sevgi T. (2016). Tekstilde İmmobilize Enzimlerin uygulanması. VIII. Uluslararası Ar-Ge Proje Pazarı (International R&D Brokerage Event), 12 – 13 Mayıs, Bursa.

Sevgi T, Demirkan E. (2016).Utilization of Alternative Stains for Traditional Spor and Bacteria Staining. 1st International Mediterranean Science and Engineering Congress (IMSEC-2016), October 26-28, Adana.

Ezginur Cam, Yakup Aykut, Nilay Aladag Tanik and Elif Demirkan. (2016).Electrochemical Detection of DNA Hybridization on PAN-PANI Composite Nanofibers. NanoTR-12 Nanoscience and Nanotechnology Congress, 3-5 Haziran, Gebze.

Nilay Aladağ Tanik, Ezginur Çam, Yakup Aykut, Elif Demirkan. (2016). Electrochemical Detection of DNA Hybridization on Nanofibers. NanoTR-12 Nanoscience and Nanotechnology Congress, 3-5 Haziran,Gebze.

Nilay Aladag Tanik, Elif Demirkan, Yakup Aykut. (2016). Guanin Signal Enhancement at DNA Biosensor Using Metal Nanoparticules-Mixed Silica Gel: Application to Hybridization Detection on Biosensor Surface. 3.Uluslararası Biyosensör Kongresi, 3-7 Ekim, Ankara.

Y. Aykut, N. Aladag Tanik, E.Demirkan.(2016). Comparison of Guanine Signals Received From the Pencil Graphite Biosensor Surface Which Coated with Different Nanofibers by Electrospinning NanoTec2016, 26-27 Eylül, Valencia, İspanya

Tuba Sevgi, Behice Zeren, Baran Enes Güler, Elif Demirkan.(2017). Screening of petroleum degrading *Bacillus* sp.strains isolated from different non-contaminated soil samples. 15th World Congress on 2nd International Conference on Biotechnology And Biotech Industries Meet Enzymology and Molecular Biology. March 20-21, Rome, Italy.

Tuba Sevgi, Elif Demirkan, Dilek Kut, Meral Dogan. (2017). The investigation of effects of commercial protease and *Bacillus subtilis* 168 E6-5 protease on felting and dyeing behaviour of 100% wool fabric. 15th World Congress on 2nd International Conference on Biotechnology And Biotech Industries Meet Enzymology and Molecular Biology. March 20-21, Rome, Italy.

Tuba Sevgi, Elif Demirkan.(2017). Antimicrobial activities of seed extracts of *Prunus persica*, *Prunus cerasus*, *Prunus avium* and *Prunus armeniaca*. 15th World Congress on 2nd International Conference on Biotechnology And Biotech Industries Meet Enzymology and Molecular Biology. March 20-21, Rome.

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Behice Zeren, Büşra Özalpar, Baran Enes Güler, Elif Demirkan.(2017). Yeni İzolat *Bacillus* Sp. 10-2 alfa-Amilaz Enzimi ile Ticari Amilaz Enzimlerinin Hayvan Yem Katkı Maddesi Olarak Kullanılabilirliği İçin Sıcaklık, Stabilite ve pH Değerlerinin Saptanması. Uludağ Üniversitesi, VI. Bilgilendirme ve Ar-Ge Günleri, 15-16 Mart, Bursa.

Tuba Sevgi, Baran Enes Güler, Gizem Özçakan Güler, Gamze Yıldız, Elif Demirkan. (2017).Usage of Organic Wastes and Some Plants for Acne Bacteria Instead of Chemical Methods. Uludağ Üniversitesi, VI. Bilgilendirme ve Ar-Ge Günleri, 15-16 Mart, Bursa.

Behice Zeren, Tuba Sevgi, Büşra Özalpar, Baran Enes Güler, Elif Demirkan.(2017).Türkiye topraklarından *Bacillus* sp.suşlarının antibiyotik üretim potansiyellerinin araştırılması. 3. Uluslararası İlaç ve Eczacılık Kongresi,26-29 Nisan, İstanbul.

Büşra Özalpar, Tuba Sevgi, Alev Usta Ak, Elif Demirkan.(2017). Türkiye Topraklarından izole edilen *Brevibacillus laterosporus* EA62'den elde edilen yeni antibiyotiğin MİK değerlerinin saptanması. 3. Uluslararası İlaç ve Eczacılık Kongresi,26-29 Nisan, İstanbul.

Tuba Sevgi, Berrak Erol Nalbur, Elif Demirkan.(2017). Degradation of Gasoline by novel isolated *Bacillus* sp.ET23 strain. Ankara Üniversitesi 5. Çevre Günleri Uluslararası Sempozyumu, 8-9 Haziran, Ankara.

Gamze Yıldız , Tuba Sevgi , Elif Demirkan.(2017). Kırmızı Deniz Yosunu *Polysiphonia morrowii* Türünün Antimikrobiyal Potansiyeli / Antimicrobial Potential of Red Seaweed *Polysiphonia morrowii*. XIII. Uluslararası Katılımlı Ekoloji ve Çevre Kongresi / XIII. Congress of Ecology and Environment With International Participation, UKECEK-2017. 12-15 Eylül,Edirne.

Tuba Sevgi,Baran Enes Güler,Behice Zeren,Büşra Özalpar,Maoulida Abdou,Elif Demirkan.(2017).Türkiye topraklarından izole edilen *Bacillus* sp. suşlarının biyoremidasyonda kullanılma potansiyellerinin araştırılması. Ulusal Çevre, Deniz ve Kıyı Kirliliği Sempozyumu (UCEDKKS-2017), 10-12 Ekim, Bursa.

Tuba Sevgi, Baran Enes Güler, Elif Demirkan.(2018). Yeni İzole Edilmiş *Bacillus cereus* ET106 Suşunun Benzin Degredasyonunda Kullanılma Potansiyelinin Araştırılması. Uluslararası Su ve Çevre Kongresi, SUCEV2018, 22-24 Mart 2018, Bursa.

Elif Demirkan, Dilek Kut.(2018). İmmobilize Bakterilerin Tekstil Endüstrisi Atık sularının Arıtımında Kullanılabilme Potansiyelleri. UTİB Türkiye Tekstil ve Konfeksiyon Sektöründe X. Uluslararası AR-GE Proje Pazarı. 08-09 Mart 2018, Bursa

Dilek Kut, Mehmet Kılış, Elif Demirkan (2018).Taşıtlarda Kullanılabilecek Miselyum Tabanlı Biyokompozit Geliştirilmesi. UTİB Türkiye Tekstil ve Konfeksiyon Sektöründe X. Uluslararası AR-GE Proje Pazarı. 08-09 Mart 2018, Bursa

Tuba Sevgi, Elif Demirkan.(2018). The Investigation of Light Stress on Various Cellular Responses in *Chlamydomonas reinhardtii*. Uluslararası Ekoloji 2018 Sempozyumu. 19-23 Haziran 2018, Kastamonu

Tuba Sevgi, Baran Enes Güler, Elif Demirkan.(2018). Qualitative Determination of Biodegradation in Diesel Contaminated Water and Soil Samples from Newly Isolated *Bacillus* sp. Strains. Uluslararası Ekoloji 2018 Sempozyumu. 19-23 Haziran 2018, Kastamonu.

---



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Tuba Sevgi, Gamze Yıldız, Elif Demirkan.(2018). Antimicrobial Effects of Some Herbal extracts on Acne Bacteria Instead of Chemical Methods. VII. International Congress on Molecular Biology and Biotechnology, 25 - 27 April 2018, Konya.

Tuba Sevgi, Eren Baygın, Behice Zeren, Elif Demirkan.(2018). Screening and Production of Protease Enzyme from *Bacillus* sp. Strains and Its Dehairing Application. VII. International Congress on Molecular Biology and Biotechnology, 25 - 27 April 2018, Konya.

Huzeyfe huriyet, Baran Enes Güler, Tolga Çavaş, Özgür Vatan, Tuba Sevgi, Nilüfer Çinkılıç, Elif Demirkan (2018). Evaluation of the In Vitro Anticancer and Antimicrobial Activity of Methanolic Leaf Extract of *Thuja occidentalis*. VII. International Congress on Molecular Biology and Biotechnology, 25 - 27 April 2018, Konya.

Baran Enes Güler, Büşra Özalpar, Tuba Sevgi, Elif Demirkan (2018). Immobilize Bakteri ve Enzim Kullanılarak Bazı Endüstriyel Atık Suların Biyodegradasyonlarının Araştırılması. Uludağ Üniversitesi, VII. Bilgilendirme ve Ar-Ge Günleri, 3-4 Nisan 2018, Bursa.

Elif Demirkan (2018). Sentetik Plastiklerin Mikroorganizmalarla Biyodegradasyonu. Ankara Üniversitesi 6. Çevre Günleri "Plastik Kirliliğiyle Mücadele",15 Mayıs 2018- Ankara.

#### SPECIAL SEMINARS

Sarıkaya E. (1998). Purification, Crystallization and Characterization of  $\alpha$ -Amylase Enzymes from Some *Bacillus* Strains. Fukuyama University, Department of Food Science and Technology', Fukuyama-Hiroshima, Japan.

Sarıkaya E. (1999). Bazı *Bacillus* Suşlarından  $\alpha$ -Amilaz Enziminin Saflaştırılması, Karakterizasyonu, Kristallizasyonu ve 3-Boyutlu Yapısının Ortaya Çıkarılması. Ankara Üniversitesi, Fen Fakültesi, D-Blok Kırmızı Salon. Ankara.

#### PROJECTS

Gürgün V., Sarıkaya E. Optimization of growth parameters, eyzme characteristics and production conditions of some  $\alpha$ -amylase producing *Bacillus* strains. Ankara University Scientific Research Projects Unit (No:93-25-00-26), Assistant researcher, (1995).

Sarıkaya E. Development of Enterobacter identification scheme. TUBITAK (No: VHAG-1297/ADP), Project coordinator, (1997).

Halkman AK, Sarıkaya E., Doğan HB. Development of Enterobacter identification scheme. (Ankara University Scientific Research Projects Unit (No:96-11-12-01), Assistant researcher, (1998).

Gürgün V., Sarıkaya E. Determination of yield enhancement possibilities of some *Bacillus* strains used in  $\alpha$ -amylase production by classical mutation methods. (Ankara University Scientific Research Projects Unit (No:93-25-00-17), Assistant researcher, (1999).

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---

Cihangir N., Sarıkaya E. Lipase Enzyme Production, Purification and Characterization from *Aspergillus* sp. TUBİTAK (No:MİSAG-168), Assistant researcher, (2003).

Demirkan E., Dinçbaş, S., Sevinç N. (2008-2010). Investigation of immobilization conditions in the calcium alginate capsules of  $\alpha$ -amylase produced from *Bacillus subtilis*. Uludag University Scientific Research Projects Unit (No: F 2008/24), Project coordinator, (2010).

Uludağ Üniversitesi Rektörlüğü. Uludağ University Science and Technology Research Center Infrastructure (Biotechnology section), DPT project ,(2011-continue).

Demirkan E., Ersoy F., Baygın E.,Akçakoca D., Zeren B, Usta A, Sevgi T. Phytase production from *Bacillus* sp.strains isolated from Turkey soils, optimization of production conditions, purification of the enzyme, characterization and expression in *E. coli*. Uludag University Scientific Research Projects Unit (No:QUAP (F)2012/11), Project coordinator, (2016).

Demirkan E., Aybey A. Investigation of the effect of paraoxonase 1 (lactonase) enzyme as an antimicrobial agent on quorum sensing (QS) associated behaviors of pathogenic bacteria. Uludag University Scientific Research Projects Unit (No: HDP(F)2013/29), Project coordinator, (2014).

Demirkan E, Y.Dilek Kut. The Investigation of Effect of Protease And Amylase Enzymes Produced by new isolate *Bacillus* sp.strain on Woolen Fabric Physical Properties. TUBİTAK (No:113Z868), Project coordinator, (2015).

Aykut Y. Demirkan E, Avcı T. Enzyme immobilization with biopolymer-nanoparticle composite nanofibers. Uludag University Scientific Research Projects Unit (No:OUAP(MH)-2014/9), Assistant researcher, (2017).

Aykut Y. Demirkan E, Tanik N. Electrochemical detection of hybridization of different specific nucleic acid sequences on the surface of core/sheath nanofiber biosensors. Uludag University Scientific Research Projects Unit (No:OUAP(MH)-2014/23), Assistant researcher, (2018).

Demirkan E.,Sevgi T., Ak Usta A. Güler BE. Isolation of *Bacillus* strains producing antimicrobial agent from soil, nutritional optimization , partial purification and characterization of antimicrobial substance. Uludag University Scientific Research Projects Unit (No:AYP(F)-2015/20), Project coordinator, (2016).

Demirkan E.,Sevgi T.,Zeren B., Güler BE. Investigation of petroleum degrading abilities by *Bacillus* sp. strains isolated from Turkey soils. Uludag University Scientific Research Projects Unit (No:HDP(F)-2016/57), Project coordinator, (2017).

Sevgi T, Demirkan E. Investigation of Effects of Some Physical and Chemical Parameters on the Heat Shock Response Using Recombinant *C.reinhardtii* strains. TUBİTAK (No: 116Z892), Assistant researcher, (2018).

Cengiz ŞŞ., Demirkan E., Biricik H., Yeşilbağ D. Investigation of the efficacy of phytase enzyme produced from newly isolated thermostable *Bacillus megaterium* EBD 9-1 in laying hens and broiler chickens. TUBİTAK,TOVAG (No: 2170127), Assistant researcher, (2018-continue).

Demirkan E., Ersoy F., Sevgi T., Abdou M., Zeren B. Lipase from the new isolate *Bacillus* sp. strain: optimization of production conditions, partial purification, characterization, potential

---

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applications in the detergent industry and the discovery of the genetic diversity of *Bacillus* genus.. Uludağ University Scientific Research Projects Unit (No:KUAP(F)2018/5), Project coordinator, (2018- continue).

## GRADUATE EDUCATION ACTIVITIES

### DIRECTORS OF THE MASTER'S THESIS

Dinçbaş S. (2009). Investigation of Hydrolysis Abilities on different Starches of the *Bacillus amyloliquefaciens*  $\alpha$ -amylase enzyme an entrapped in alginate capsule. Uludağ University, Institute of Science, Department of Biology.

Sevinç N. (2010). Production of Protease by *Bacillus* Strains isolated from Turkish soils, Partial Purification and Characterization. Uludağ University, Institute of Science, Department of Biology.

Başkurt M. (2012). Investigation of Physical Factors Affecting The Alpha-amylase Production By *Bacillus* Sp. Strain Isolated From The Soil, Uludağ University, Institute of Science, Department of Biology.

Usta A. (2012). Screening of Antibiotic Producing *Bacillus* Sp. From Soil, Effect of Some Parameters on The Production, And Determination of Relationship With Sporulation. Uludağ University, Institute of Science, Department of Biology.

Akçakoca D. (2014). Purification and characterization of phytase enzyme from *Bacillus* sp. strains isolated from soil. Uludağ University, Institute of Science, Department of Biology.

Zeren B. (2015). Cloning studies in *E.coli* of Phytase Gene from *Bacillus megaterium* EBD 9-1 strain isolated from soil. Uludağ University, Institute of Science, Department of Biology.

Baygın E. (2015). Screening of phytase enzyme producing *Bacillus* sp. strains from soil and effect of nutritional factors on the production of phytase. Uludağ University, Institute of Science, Department of Biology.

Gököz M. (2016). Studies of strain improvement in *Bacillus subtilis* strain 168 E6-5 through UV mutation for over production of protease and optimization of growth medium. Uludağ University, Institute of Science, Department of Biology.

Güler BE. (2017). Immobilization studies of commercial protease and raw protease from *Bacillus subtilis* E 6-5 strain on nanofibers containing different aminoacid. Uludağ University, Institute of Science, Department of Biology.

Özdemir K.(Continued). Mutant strain improvement from *Bacillus subtilis* 168 E6-5 by chemical mutagenesis (ethyl methane sulfonate, EMS) for enhanced production of protease and optimization of growth medium. Uludağ University, Institute of Science, Department of Biology.

Özalpar B. (Continued). Physical (UV) and chemical (Ethidium bromide) mutagenesis for the overproduction of protease from *Bacillus subtilis* 168 E6-5 and optimization of the production condition. Uludağ University, Institute of Science, Department of Biology.

## DIRECTORS OF THE DOCTRATE THESIS

Aybey A. (2014). Investgation of Effect of The Paraoxonase1 (Lactonase) Enzyme as an Antimicrobial Agent on Quorum Sensing Related Behaviors of *Pseudomonas Aeruginosa*. Uludağ University, Institute of Science, Department of Biology.

Tanik Aladağ N. (2016). Electrochemically Determination of the hybridization of different specific nucleic acid sequences on the core/sheat nanofiber biosensors. Uludağ University, Institute of Science, Department of Biology.

Ak Usta A. (2017). Antimicrobial activities against some pathogen bacteria of *Bacillus* species strains, effect of the certain nutritional and physical parameters on the production of antimicrobial substances, partial purification and characterization. Uludağ University, Institute of Science, Department of Biology.

Sevg T. (Continued). Investigation of Effects of Some Physical and Chemical Parameters on the Heat Shock Response Using Recombinant *C.reinhardtii* strains. Uludağ University, Institute of Science, Department of Biology.

Zeren B.(Continued). Protease from new isolate *Bacillus subtilis* E6-5 strain: optimization of production conditions, partial purification, characterization, potential applications in leather industry. Uludağ University, Institute of Science, Department of Biology.

Abdou M.(Continued). Screening of lipase from *Bacillus* sp.strains, optimization of lipase production conditions, partial purification, characterization and potential applications in the detergent industry. Uludağ University, Institute of Science, Department of Biology.

## BOOK

Elif Demirkan. Moleküler Biyolojinin Temelleri, Dora Yayıncılık Ltd.,Şti.,1. Baskı,2018, Bursa

## AWARD

Demirkan E., Kut D., Doğan M., Baygın E. ULUTEK ve Technology Transfer Office of Uludağ University under the scope of "Science and Technology Week" " Investigation of the Effect on the Physical Properties of Woolen Fabrics of Produced Protease Enzyme from New Isolated *Bacillus* sp. E6-5 ". Project third award (2015).

Tuba Sevgi, Baran Enes Güler, Gizem Özçakan Güler, Gamze Yıldız, Elif Demirkan. Usage of Organic Wastes and Some Plants for Acne Bacteria Instead of Chemical Methods. Uludağ Üniversitesi, VI. Bilgilendirme ve Ar-Ge Günleri, 15-16 Mart 2017, poster presentation second award and World 4th prize in science olympics MOSTRATEC 2017 at Brazil (2016).

## ADMINISTRATIVE ROLES

| NAME   | YEARS            |
|--|------------------|
| Fakülte Yönetim Kurulu Üyeliği                               | 2010-2013        |
| Fakülte Kurul Üyeliği  | 2013-2016        |
| Fakülte Yönetim Kurulu Üyeliği                               | 2016 (Continued) |
| Biyoloji Bölümü, Moleküler Biyoloji Anabilim Dalı Başkanlığı | 2011-2014        |
| Biyoloji Bölümü, Moleküler Biyoloji Anabilim Dalı Başkanlığı | 2014-2016        |
| Biyoloji Bölümü, Moleküler Biyoloji Anabilim Dalı Başkanlığı | 2016 (Continued) |