

Prof. Dr. GÜLŞAH ŞANLI MOHAMED

İzmir Institute of Technology,
Faculty of Science,
Department of Chemistry
Urla/ Izmir / TURKEY
Phone: ++ 90 -232- 7507515
Email: gulsahsanli@iyte.edu.tr

EDUCATION

- **Ph.D., Biochemistry**, Department of Chemistry, Florida State University, Florida. Thesis Director: Dr. Michael Blaber (1997-2002)
- **M.Sc., Biochemistry**, School of Medicine, Virginia Commonwealth University, Virginia. Thesis Director: Dr. Richard Franson (1995-1996)
- **B.A., Chemistry (Major in Biochemistry)**, Chemistry Department, EGE University, Izmir, Turkey (1991-1995)

PROFESSIONAL EXPERIENCE

- Professor of Biochemistry, Department of Chemistry, Izmir Institute of Technology (2018-)
- Associate Professor of Biochemistry, Department of Chemistry, Izmir Institute of Technology (2013-2018)
- Assistant Professor of Biochemistry, Department of Chemistry, Izmir Institute of Technology (2004-2013)
- Postdoctoral Fellow, Department of Chemistry, Florida State University, Florida (2012-2013)
- Graduate Assistant, Department of Chemistry, Florida State University, Florida (2002-2004)
- Graduate Assistant, Department of Chemistry, Izmir Institute of Technology (1993-2002)

SERVICE

- Vice-Chair, Graduate Office, Izmir Institute of Technology (2016-presents)
- Scientific Advisory Board, National Conference on Medicinal Chemistry (2013-present)
- Vice-Chair, Department of Chemistry, (2012-present)
- Vice-Director, Environmental Research Center (2011-present)
- Editor, Journal of Proteins and Proteomics (2008-present)
- Core Lab Committee, Biomedical Sciences (2008-present)
- Chemistry Student Faculty Advisor (2006-present)
- Faculty Evaluation Committee (2004-present)
- International Relations Committee, Izmir Institute of Technology (2004-presents)
- Erasmus Coordinator of Chemistry Department (2004-present)

RESEARCH AREAS

Background

- Protein expression, purification and characterization
- Protein structure, function and engineering
- Industrially important enzymes

Recent Interest

- Synthesis and Characterization Nanoparticles
- Application of Nanoparticles in Biological Systems
- Drug Delivery
-

PUBLICATIONS

- İlgü, Hüseyin; Sürmeli, Yusuf; Şanlı-Mohamed, Gülşah. A Thermophilic α -L-Arabinofuranosidase from *Geobacillus vulcani* GS90: Heterologous Expression, Biochemical Characterization and its Synergistic Action in Fruit Juice Enrichment, 2018, EUROPEAN FOOD RESEARCH and TECHNOLOGY
- Sürmeli, Yusuf; İlgü, Hüseyin; Şanlı-Mohamed, Gülşah. Improved activity of α -L-arabinofuranosidase from *Geobacillus vulcani* GS90 by directed evolution: Investigation on thermal and alkaline stability, 2018, BIOTECHNOLOGY AND APPLIED BIOCHEMISTRY
- Erdem Yayayürük, Aslı; Shahwan, Talal; Şanlı-Mohamed, Gülşah; Eroğlu, Ahmet E. Trypsin-Immobilized Silica: A Novel Adsorbent for V(IV) and V(V) Removal from Water, 2018, WATER ENVIRONMENT RESEARCH
- Köse, Aytekin; Bal, Yıldız.; Kışhalı, Nurhan H.; Şanlı-Mohamed, Gülşah; Kara, Yunus, Synthesis and anticancer activity evaluation of new isoindole analogues, 2017, MEDICINAL CHEMISTRY RESEARCH
- Bor, Gizem; Mytych, Jennifer; Zebrowski, Jacek; Wnuk, Maciej; Şanlı-Mohamed, Gülşah, Cytotoxic and cytostatic side effects of chitosan nanoparticles as a non-viral gene carrier, 2016, INTERNATIONAL JOURNAL OF PHARMACEUTICS
- Bor, Gizem; Üçüncü, Muhammed; Emrullahoğlu, Mustafa; Tomak, Aysel; Şanlı-Mohamed, Gülşah, BODIPY-conjugated chitosan nanoparticles as a fluorescent probe, 2016, DRUG AND CHEMICAL TOXICOLOGY
- Zeybek, Ayca; Şanlı-Mohamed, Gülşah; Ak, Guliz; Yilmaz, Habibe; Sanlier, Senay H., In vitro Evaluation of Doxorubicin-Incorporated Magnetic Albumin Nanospheres, 2014, CHEMICAL BIOLOGY & DRUG DESIGN
- Turan, Taylan; Şanlı-Mohamed, Gülşah; Baran, Yusuf, Changes in protein profiles of multiple myeloma cells in response to bortezomib, 2013, LEUKEMIA & LYMPHOMA
- Longo, Liam M.; Şanlı Mohamed, Gülşah; Blaber, Michael, Biophysical characterization of a thermoalkalophilic esterase from *Geobacillus* sp., 2013, JOURNAL OF PROTEINS AND PROTEOMICS
- Güray, Zeynep Melda; Şanlı Mohamed, Gülşah, A New Thermophilic Polyphenol Oxidase From *Bacillus* sp.: Partial Purification and Biochemical Characterization, 2013, JOURNAL OF PROTEINS AND PROTEOMICS

- Gulay, Seckin; Şanlı-Mohamed, Gülşah, Immobilization of thermoalkalophilic recombinant esterase enzyme by entrapment in silicate coated Ca-alginate beads and its hydrolytic properties, 2012, INTERNATIONAL JOURNAL OF BIOLOGICAL MACROMOLECULES
- Havare, A. Kemal; Ilgu, Huseyin; Okur, Salih; Şanlı-Mohamed, Gülşah, Humidity Sensing Properties of Chitosan by Using Quartz Crystal Microbalance Method, 2012, SENSOR LETTERS
- Ilgu, Huseyin; Turan, Taylan; Sanli-Mohamed, Gulsah, Preparation, Characterization and Optimization of Chitosan Nanoparticles as Carrier for Immobilization of Thermophilic Recombinant Esterase, 2011, JOURNAL OF MACROMOLECULAR SCIENCE PART A-PURE AND APPLIED CHEMISTRY
- Şanlı Mohamed, Gülşah, Unprecedented Insights of Cancer By Proteomics Profiling, 2011, JOURNAL OF PROTEINS AND PROTEOMICS
- Tekedar, Hasan Cihad; Şanlı-Mohamed, Gülşah, Molecular cloning, over expression and characterization of thermoalkalophilic esterases isolated from *Geobacillus* sp., 2011, EXTREMOPHILES
- Şanlı-Mohamed, Gülşah; Turan, Taylan; Ekiz, Huseyin Atakan; Baran, Yusuf, The importance of protein profiling in the diagnosis and treatment of hematologic malignancies, 2011, TURKISH JOURNAL OF HEMATOLOGY
- Sanli, G; Banta, S; Anderson, S; Blaber, M, Structural alteration of cofactor specificity in *Corynebacterium* 2,5-diketo-D-gluconic acid reductase, 2004, PROTEIN SCIENCE
- Sanli, G; Dudley, JI; Blaber, M, Structural biology of the aldo-keto reductase family of enzymes - Catalysis and cofactor binding, 2003, CELL BIOCHEMISTRY AND BIOPHYSICS
- Sanli, G; Blaber, M, Structural assembly of the active site in an aldo-keto reductase by NADPH cofactor, 2001, JOURNAL OF MOLECULAR BIOLOGY
- Sanli, G; Blaber, SI; Blaber, M, Reduction of wobble-position GC bases in *Corynebacteria* genes and enhancement of PCR and heterologous expression, 2001, JOURNAL OF MOLECULAR MICROBIOLOGY AND BIOTECHNOLOGY
- Sanli, G; Somasundaram, T; Blaber, M, X-ray structure of apo-2,5-di-keto-D-gluconic acid reductase A., 2001, BIOPHYSICAL JOURNAL
- Khurana, S; Sanli, G; Powers, DB; Anderson, S; Blaber, M, Molecular modeling of substrate binding in wild-type and mutant *Corynebacteria* 2,5-diketo-D-gluconate reductases, 2000, PROTEINS-STRUCTURE FUNCTION AND GENETICS
- Kitosan Nanoparçacıklarına İmmobilize Edilmiş Zeytin YaprığıEkstraktının Akciğer Kanseri Hücrelerindeki EtkinliğininAraştırılması, 2. İlaç Kimyası Kongresi, 2014
- Zeytin Yaprığı Ektraktı Enkapsüle Edilmiş Kalsiyum-Aljinat-Kitosn Mikroparçacıklarının Akciğer Kanseri Hücrelerindeki Etkinliğinin Araştırılması, 2.İlaç Kimyası Kongresi, 2014
- The effect of doxorubicin-albumin magnetic nanoparticles on prostate and lung cancer cells , 9th International Nanotr Conferences, 2013
- Gemcitabin İçeren Manyetik Hedefli Jelatin Nanopartiküller ile in Vitro Çalışmalar, 1.İlaç Kimyası, 2013
- Folat ile Hedeflendirilmiş Doksorubisin Konjugatının Prostat Kanseri Hücreleri Üzerindeki Etkinliğinin Araştırılması , 1.İlaç Kimyası, 2013

- Synthesis and characterization of magnetically responsive doxorubicin loaded nanospheres and in vitro cytotoxicity studies on cancer cells , 16th International Pharmaceutical Technology Symposium , 2012
- Characterization of Immobilized Thermophilic Recombinant Esterase on Chitosan Nanoparticles , International Conference on Enzyme Science and Technology, 2011
- T. Turan, G. Şanlı-Mohamed, Y. Baran, 37. Ulusal Hematoloji Kongresi konferansı dahilinde "37. Ulusal Hematoloji Kongresi" bildiri kitapçığındaki "Bortezomib Uygulanan Multipl Miyelom Hücrelerinin Protein Profillerindeki Değişimlerim Proteomiks Yaklaşım İle Belirlenmesi", 57-58 pp., Ankara, Türkiye, Ekim 2011
- Zeybek, A., Turan, T., Şanlı-Mohamed, G. Characterization of Immobilized Thermophilic Recombinant Esterase on Chitosan Nanoparticles. Enzyme Science and Technology (2011)
- Güray, M. and Şanlı, G. Polifenol Oksidaz Enziminin Termofilik Bacillus sp.den Kısmi Olarak Saflaştırılması ve Karakterizasyonu. XVI. Ulusal Biyoteknoloji Kongresi, Antalya 32-33 (2009)
- Güracar, S., Şanlı- G. Termofilik Bacillus sp.denTermal Kararlı Proteaz Enziminin Moleküler klonlanması ve İfadelenmesi. XXIV.Uluslararası Kimya Kongresi, Zonguldak (2010)
- Tekedar, H.C. and Şanlı,G. Molecular Cloning, Over Expression and Characterization of Thermostable Esterases Isolated from Balçova (Agamemnon) Geothermal Site in Turkey, International Enzyme Engineering Symposium, ESP27, 69 (2008)
- İlgi, H., Turan, T. Şanlı-Mohamed, G. Immobilization and Characterization of Thermophilic Recombinant Esterase on Chitosan Nano-particles. 6th Nanoscience and Nanotechnology Conference, Çeşme, 293 (2010)
- Havare, A.K., İlgi, H., Okur, S., Şanlı-Mohamed, G. Humidity Sensing Properties of Chitosan by using Quartz Crystal Microbalance. 6th Nanoscience and Nanotechnology Conference, Çeşme, 507 (2010).
- Turan, T., İlgi, H, Şanlı-Mohamed G. Preparation of Thermophilic Recombinant Esterase Loaded on Chitosan Nanoparticles and Influence on Immobilization Efficiency. Chemical Physics Congress-IX Çeşme, 118 (2010).
- Termofilik Enzimlerin Keşfi, E.coli de İfadelenmesi ve Karakterizasyonu, Sanlı, G. XVI. Ulusal Biyoteknoloji Kongresi, 273-276 (2009)
- 2,5-diketo-D-Glukonik asid Redüktaz enziminin Circular Dichroism Spektroskopisi ile Termodinamik Karakterizasyonu, Sanlı, G. ve Blaber, M. X.ulusal Spektroskopisi Kongresi, 161 İYTE, Izmir (2007)
- Structural Alteration of Cofactor Specificity in *Corynebacterium* 2,5-diketo-D-Gluconic Acid Reductase, Sanlı, G. and Blaber, M FLACS 50, 47 (2003)
- Construction and Characterization of a Synthetic Gene for 2,5-Diketo-D-Gluconate Reductase, Sanlı, G., Blaber, S., Khurana, S. and Blaber, M. FLACS 52, 49 (1999).
- Proton Donor Promiscuity in an Aldo-keto Reductase, Khurana, S., Sanlı, G., Powers, D.B., Anderson, S. and Blaber, M. FLACS 52, 49 (1999)
- Construction and Characterization of a Synthetic Gene for 2,5-Diketo-D-Gluconate Reductase, Sanlı, G., Blaber, S., Khurana, S. and Blaber, M. Protein Science 8, 65 (1999)

- Construction and Characterization of a Synthetic 2,5-Diketo-D-Gluconate Reductase Gene, Sanli, G., Blaber, S., Khurana, S. and Blaber, M. Proceedings of the 54th Calorimetry Conference, 164 (1999)
- Structural Studies of Synthetic 2,5-Diketo-D-gluconic Acid Reductase Complexed with its Substrate and Oxidized Cofactor, Sanli, G. and Blaber, M. Proc. 8th Intl. Conf. Crystal. Biol. Macromol., 202 (2000)
- X-ray Structure of Apo-2,5-Diketo-D-Gluconic Acid Reductase A, Sanli, G., Somasundaram, T. and Blaber, M., Biophysical Journal 80, 257 Part 2 (2001)
- Stability and Dynamics Issues in Enzyme Engineering of an Aldo-keto Reductase, Sanli, G. and Blaber, M. SERMACS 2001, 121 (2001)
- Metabolic and protein engineering in the development of a new method for the production of vitamin C, Sanli, G., Dudley, J.I. and Blaber, M., Program of the Southeastern Branch of the American Society for Microbiology A47 (2002)
- Synthetic Genes for Corynebacteria 2,5-Diketo-D-gluconic Acid Reductases, Blaber, M., Sanli, G. and Blaber, S. U.S. Patent Application (pending)