

Prof. REMZİYE YILMAZ

Personal Information

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International Researcher IDs

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Biography

Dr. Remziye Yılmaz received her Ph.D. from the Hacettepe University, Food Engineering Department in 2002 where her research focus was molecular identification and characterization of Lactic Acid Bacteria. Between 2002-2005, she founded and worked at the first molecular biology laboratory on the detection and quantification genetically modified crops at the Ankara Food Control Laboratory, Ministry of Agriculture. In 2005, she received a postdoctoral position from Middle East Technical University (METU), Molecular Biology and Biotechnology R&D Center. From 2005-2015, she conducted research as a head of the Genome Analysis Laboratory at the METU (Ankara), where her research contributed to the understanding of the functional genomics and genetically modified organisms including microorganisms. In 2006, short term, she moved to Wageningen University & Research, where she was a [Prof. Dr. Leo De Graff](#) Postdoctoral Fellow in the laboratory of Fungal Genomics. During this time, she expanded her research interests to focus on the functional genomics of plants such as wheat and barley, using the microarray analysis model.

In 2015, she accepted a position at Hacettepe University as an Associate Professor. At the same year she awarded with Borlaug Fellowship at the Michigan State University (MSU), Food Toxicology and Molecular Biology Department. Her mentor was [Robert Hollingworth](#) and David Mota-Sanchez from MSU. Since 2015, her laboratory at the Hacettepe University has worked to identify food microorganisms from Anatolia via molecular microbiological techniques; to develop new methods, proficiency tests and reference materials to analyses GMOs; and to use probiotics for functional foods. In parallel to these studies, research in her laboratory has also expanded into the area of DNA-nanosensor technology for the detection of microorganisms and GMOs. Since 2017, Dr. Yılmaz also serves for International Food Biosafety and Biotechnology R&E Center (<http://foodbiotech.hacettepe.edu.tr/en>). In March 2021, Dr. Yılmaz was promoted to the rank of Professor.

Thanks to high-throughput foodomics approach, Dr. Yılmaz's laboratory (<http://www.foodomicslab.hacettepe.edu.tr/en/>) and research area are now facing the possibility for the exploitation of food science and human health with new projects such as "Development of a New Approach for Determining the Change in Genetically Modified Maize Flour Profile using Transcriptomics, Metabolomics and Lipidomics", "Shotgun Metagenomic Analysis of Microbial Composition of Tarhana and White Cheese" and "Comparative Transcriptome Analysis of Local Wheat Varieties (*Triticum* spp.) and Effects of Zinc Treatment".

<https://scholar.google.com/tr/citations?user=hKj1iWYAAAAJ&hl=tr>

Education Information

Doctorate, Hacettepe University, Fen Bilimleri , Gıda Mühendisliği , Turkey 1996 - 2002

Postgraduate, Hacettepe University, Fen Bilimleri Enstitüsü, Gıda Mühendisliği A.B.D., Turkey 1992 - 1996

Undergraduate, Ankara University, Faculty Of Agriculture, Turkey 1985 - 1990

Dissertations

Doctorate, Çiğ ve Pastörize Sütlerden Yerel Yoğurt Starterter Suşlarının İzolasyonu, Tanımlanması ve Bunların Karakterizasyonu, Hacettepe Üniversitesi, Mühendislik Fakültesi, Gıda Mühendisliği Bölümü, 2002

Postgraduate, Peynir suyu laktöz permeatının mikrobiyolojik besiyerlerinde kullanılabilirliği, Hacettepe Üniversitesi, Mühendislik Fakültesi, Gıda Mühendisliği Bölümü, 1996

Research Areas

Food Engineering, Life Sciences, Biochemistry, Food Biochemistry, Bioinformatics, Biotechnology, Plant Biotechnology, Microbial Biotechnology, Microbiology, Molecular Biology and Genetics

Academic Titles / Tasks

Professor, Hacettepe University, Mühendislik Fakültesi, Gıda Mühendisliği Bölümü, 2021 - Continues

Courses

Genel Mikrobiyoloji, Undergraduate, 2017 - 2018

Advising Theses

Yılmaz R., Meyve Suyu Endüstrisi Atıklarından Alternatif Protein Üretimi, Postgraduate, İ.CEREN(Student), 2024

Yılmaz R., Bütünleşik omik yaklaşımı ile geleneksel tarhana fermantasyonu mikrobiyomunun araştırılması, Doctorate, Ö.İŞİK(Student), 2024

Yılmaz R., Streptococcus Salivarius subsp. thermophilus'un CRISPR-Cas Tip II sisteminin tespiti ve tanımlaması, Postgraduate, B.YILMAZ(Student), 2024

Yılmaz R., Mikrodalga uygulanan MIR604 ve MON810 mısır unlarının omik yaklaşım ile karakterizasyonu, Doctorate, B.ZEYNEP(Student), 2024

Yılmaz R., Saccharomyces cerevisiae var. boulardii'nin soya bazlı fermente gıda üretiminde kullanımının araştırılması, Postgraduate, B.SAYMAN(Student), 2024

Yılmaz R., Seçilmiş yerel buğday çeşitlerinin karşılaştırmalı transkriptomik analizi ve çinko uygulamasının bazı enzim genlerinin ifade düzeyine olan etkisi, Postgraduate, A.BİLGE(Student), 2022

Yılmaz R., Saccharomyces Cerevisiae ve Metschnikowia Pulcherrima içeren sıralı fermantasyonda karışık başlangıç kültürünün kullanılmasına yönelik transkripsiyonel yanıt, Postgraduate, E.BİRCAN(Student), 2022

Yılmaz R., Day B., Gmo detection with nanobiosensing system integration of artificial intelligence, Postgraduate, Y.TAŞKIN(Student), 2022

Yılmaz R., Bazı probiyotik bakterilerin mikroenkapsülasyonu ve meyve suyunda kullanımının araştırılması, Postgraduate, S.ÇAKIR(Student), 2021

Yılmaz R., Beyaz peynir ve süt işleme tesisinden izole edilen mikrobiyotanın karakterizasyonu, Postgraduate, Z.GÖRKEM(Student), 2020

Yılmaz R., Saccharomyces cerevisiae DNA barkodunun belirlenmesi ve veri tabanının oluşturulması, Doctorate, M.KURBAN(Student), 2019

Öktem H. A., Yılmaz R., Development of a loop mediated isothermal amplification (LAMP) based detection platform for genetically modified organism (GMO) detection, Postgraduate, A.NAZLI(Student), 2019

Yılmaz R., Gıda ve yem ürünlerinde GDO tespiti için yeterlilik test kiti geliştirilmesi, Postgraduate, T.TURGUT(Student), 2019

YILMAZ R., Using plasmid reference materials for genetically modified organisms analysis and their verification with inter-laboratory comparison test, Postgraduate, T.CEREN(Student), 2016

YILMAZ R., Comparative statistical microarray analysis of yeast data under heat shock stress, Postgraduate, D.VAROL(Student), 2014

YILMAZ R., Recombinant transglutaminase production by metabolically engineered *Pichia pastoris*, Postgraduate, B.GÜNDÜZ(Student), 2012

YILMAZ R., IN-VITRO CHARACTERIZATION OF A NOVEL CDTE-CDS/2MPA-DMSA QUANTUM DOT, Postgraduate, E.SAYIN(Student), 2011

YILMAZ R., Development of analysis methods for *cry1ac* and *sam-k* gene lines in tomato using PCR and real-time PCR, Postgraduate, S.UYGUN(Student), 2010

YILMAZ R., Development of PCR methods for detection and quantification of genetically modified maize, Doctorate, H.JABBARI FARHOUD(Student), 2010

YILMAZ R., Effects of pH on human growth hormone production by *Pichia pastoris* considering the expression levels of regulatory genes, Postgraduate, E.BAYRAKTAR(Student), 2009

YILMAZ R., Detection of genetically modified potatoes by the polymerase chain reaction (PCR), Postgraduate, A.MUWONGE(Student), 2005

YILMAZ R., Detection of genetically modified maize via polymerase chain reaction, Postgraduate, G.AYDIN(Student), 2004

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **RT-qPCR based quantitative analysis of ARO and ADH genes in *Saccharomyces cerevisiae* and *Metschnikowia pulcherrima* strains growth white grape juice**
Muyanlı E. B., YILMAZ R.
Molecular Biology Reports, vol.51, no.1, 2024 (SCI-Expanded)
- II. **Detection of the lactic acid bacterial community in small scale white cheese processing facility using shotgun metagenomics and culturomics**
Yılmaz R.
INTERNATIONAL DAIRY JOURNAL, vol.155, pp.1-20, 2024 (SCI-Expanded)
- III. **Differentiation of *Saccharomyces boulardii* from *Saccharomyces cerevisiae* Strains Using the qPCR-HRM Technique Targeting *AAD15* Gene**
Sayman B., YILMAZ R.
FOOD BIOTECHNOLOGY, no.3, pp.277-290, 2024 (SCI-Expanded)
- IV. **Analyses of Metabolites in Microwave-treated Maize Flours**
Hançerlioğulları B. Z., Toprak U., YILMAZ R.
Food and Bioprocess Technology, vol.17, no.3, pp.686-696, 2024 (SCI-Expanded)
- V. **Bioactive compounds in lipids of selected wheat genotypes**
Akram M. U., YILMAZ R., Salantur A., UYGUN Ü.
International Journal of Food Science and Technology, vol.58, no.11, pp.6049-6058, 2023 (SCI-Expanded)
- VI. **Screening of P-35S, P-FMV, and T-NOS genetic elements in microwave-treated genetically modified cereal flours**
Hançerlioğulları B. Z., YILMAZ R.
Molecular Biology Reports, vol.50, no.6, pp.4813-4822, 2023 (SCI-Expanded)
- VII. **Tarhana Microbiota–Metabolome Relationships: An Integrative Analysis of Multi-Omics Data**
Işık Doğan Ö., YILMAZ R.
Food Biotechnology, vol.37, no.2, pp.191-217, 2023 (SCI-Expanded)

- VIII. **Modern biotechnology breakthroughs to food and agricultural research in developing countries**
YILMAZ R.
GM CROPS & FOOD-BIOTECHNOLOGY IN AGRICULTURE AND THE FOOD CHAIN, vol.10, no.1, pp.12-16, 2019 (SCI-Expanded)
- IX. **Development of SYBR green-based real time PCR assays for detection and quantification of adulteration in wheat-based composite breads and their in-house validation**
YILMAZ R., BAYRAÇ C., BAŞMAN A., KÖKSEL H.
JOURNAL OF CEREAL SCIENCE, vol.85, pp.91-97, 2019 (SCI-Expanded)
- X. **Transcriptomic analysis of the heat stress response for a commercial baker's yeast *Saccharomyces cerevisiae***
Varol D., PURUTÇUOĞLU GAZİ V., YILMAZ R.
GENES & GENOMICS, vol.40, no.2, pp.137-150, 2018 (SCI-Expanded)
- XI. **DNA Barcoding for MPR Fruits and Vegetables**
YILMAZ R.
MINIMALLY PROCESSED REFRIGERATED FRUITS AND VEGETABLES, 2ND EDITION, pp.639-649, 2017 (SCI-Expanded)
- XII. **Single laboratory method performance evaluation for the analysis of Roundup Ready (R) soy flour by qualitative and quantitative detection methods**
YILMAZ R., Bayrac C., Yucel M.
QUALITY ASSURANCE AND SAFETY OF CROPS & FOODS, vol.9, no.3, pp.303-311, 2017 (SCI-Expanded)
- XIII. **Genetic Differentiation of *Lactobacillus delbrueckii* subsp *bulgaricus* and *Streptococcus thermophilus* Strains Isolated from Raw Milk Samples Collected from Different Regions of Turkey**
YILMAZ R., TEMİZ A., AÇIK L., ÇELEBİ KESKİN A.
FOOD BIOTECHNOLOGY, vol.29, no.4, pp.336-355, 2015 (SCI-Expanded)
- XIV. **Development of a paper-type tyrosinase biosensor for detection of phenolic compounds**
Senyurt O., Eyidogan F., Yilmaz R., OZ M. T., OZALP V. C., Arica Y., ÖKTEM H. A.
BIOTECHNOLOGY AND APPLIED BIOCHEMISTRY, vol.62, no.1, pp.132-136, 2015 (SCI-Expanded)
- XV. **A sandwich-type DNA array platform for detection of GM targets in multiplex assay**
Cansiz S., ÖZEN C., Bayrac C., Bayrac A. T., GÜL F., KAVRUK M., Yilmaz R., Eyidogan F., OKTEM H. A.
EUROPEAN FOOD RESEARCH AND TECHNOLOGY, vol.235, no.3, pp.429-437, 2012 (SCI-Expanded)
- XVI. **Development of a laccase based paper biosensor for the detection of phenolic compounds**
Oktem H., Senyurt O., Eyidogan F., Bayrac C., Yilmaz R.
JOURNAL OF FOOD, AGRICULTURE AND ENVIRONMENT, vol.10, pp.1030-1034, 2012 (SCI-Expanded)
- XVII. **Qualitative detection of GM maize (Bt11) in food and feed sold commercially in Turkey by PCR based methods**
Gürakan G., Aydin G., Yilmaz R.
INDIAN JOURNAL OF BIOTECHNOLOGY, vol.10, pp.143-146, 2011 (SCI-Expanded)
- XVIII. **Microarray Analysis of Late Response to boron toxicity in barley (*Hordeum vulgare* L.) leaves, Arpa (*Hordeum vulgare* L.) Yapraklarında Bor Toksisitesine Geç Tepkinin Mikroarray Analizleri**
Yılmaz R.
TURKISH JOURNAL OF AGRICULTURE AND FORESTRY, vol.33, pp.191-202, 2009 (SCI-Expanded)
- XIX. **The biosafety policy on genetically modified organisms in Turkey**
Baran M., Yilmaz R.
ENVIRONMENTAL BIOSAFETY RESEARCH, vol.7, pp.57-59, 2008 (SCI-Expanded)
- XX. **Protein patterns and plasmid profiles of the bacterial strains isolated from a poultry slaughterhouse in Ankara, Turkey**
Açık L., Temiz A., Çelebi A., Arslan S., Yilmaz R.
FOOD TECHNOLOGY AND BIOTECHNOLOGY, vol.43, pp.255-262, 2005 (SCI-Expanded)
- XXI. **High fructose syrup production from whey lactose using microbial β -galactosidase and glucose isomerase**
Temiz A., Yilmaz R., Sağlam N., Ülger C.

MILCHWISSENSCHAFT-MILK SCIENCE INTERNATIONAL, vol.58, pp.121-124, 2003 (SCI-Expanded)

XXII. **Whey crystalline lactose as a main constituent in growth and counting media for lactococci and Streptococcus thermophilus**

Temiz A., Yilmaz R.

INTERNATIONAL JOURNAL OF DAIRY TECHNOLOGY, vol.51, pp.30-34, 1998 (SCI-Expanded)

XXIII. **Lactose crystallization from deproteinized whey in an ethanol-water system**

Yilmaz R., Temiz A.

MILCHWISSENSCHAFT-MILK SCIENCE INTERNATIONAL, vol.52, pp.629-631, 1997 (SCI-Expanded)

Articles Published in Other Journals

I. **GIDA MİKROBİYOLOJİSİ VE GENETİK: ESCHERICHIA COLI**

Yılmaz R.

GIDA, vol.49, no.2, pp.342-355, 2024 (Peer-Reviewed Journal)

Books & Book Chapters

I. **Novel Foods and Crispr-Cas Gene/Genome Editing Technology**

YILMAZ R., Özcan A., Çakır S., Muyanlı E. B., Taşkın Y., Uğuz A. B., Hançerlioğulları B. Z.

in: Food Science Technology and Engineering, Ertan Anlı, Pınar Şanlıbaba, Editor, Nobel, Ankara, pp.217-263, 2022

II. **Genetik modifiye organizmalar: Gıda, yem, izlenebilirlik**

YILMAZ R., ÜNAL T. T.

in: Gıda Biyoteknolojisi, Zümrüt Begüm Ögel, Editor, Türkiye Klinikleri Gıda Bilimleri, Ankara, pp.17-21, 2021

III. **Technical Guidelines for Risk Assessment of Genetically Engineering Crops and Derived Food and Feed (İngilizce)**

YILMAZ R., BAYRAÇ C.

Birleşmiş Milletler Çevre Programı, TAGEM, Ankara, 2018

IV. **Gıda Biyoteknolojisi**

YILMAZ R., Lenz D.

International Food Information Council Foundation, Washington, 2017

V. **DNA Barcoding for MPR Fruits and Vegetables**

YILMAZ R.

in: Minimally Processed Refrigerated Fruits and Vegetables, Fatih Yıldız, Robert C. Wiley, Editor, Springer, New York, pp.639-649, 2017

VI. **DNA : Yaşam Molekülü**

YILMAZ R., AKSOY E.

in: Biyoloji Öz, Eyidoğan, Füsün, Editor, Nobel Akademik Yayıncılık, Ankara, pp.116-153, 2015

Supported Projects

YILMAZ R., Çağlar N. F., Cerit Z. G., Project Supported by Higher Education Institutions, Mikrobiyal Biyoçeşitliliğin Korunması ve Karakterizasyonu Bir Kültür Koleksiyonu Modeli Oluşturulması, 2024 - Continues

YILMAZ R., TUBITAK Project, Türkiye de Yayılış Gösteren Geraniaceae Familyasının Sistemik Revizyonu, 2013 - Continues

YILMAZ R., Other International Funding Programs, Biyoteknoloji Konusunda Gıda ve Tarım Endüstrisi için Kapasite Geliştirme, Continues

YILMAZ R., HANÇERLİOĞULLARI B. Z., Yeşildağ İ. C., RÜZGAR H., AKIN H., YAZICI Ş., Project Supported by Higher Education Institutions, Meyve Suyu Endüstrisi Atıklarından Alternatif Protein Üretimi, 2022 - 2024

YILMAZ R., Sayman B., Project Supported by Higher Education Institutions, *Saccharomyces cerevisiae* var *boulardii*'nin Soya Bazlı Fermente Gıda Üretiminde Kullanımının Araştırılması, 2022 - 2023

YILMAZ R., HANÇERLİOĞULLARI B. Z., TOPRAK U., Project Supported by Higher Education Institutions, Mikroalga İşleminin MIR604 Mısır Ununda Metabolomik, Lipidomik ve Transkriptomik Profil Değişiklikleri Üzerine Etkisi, 2021 - 2023

DİKMEN D., MADALI B., YILMAZ R., DUDAK ŞEKER F. C., PARLAK L., Project Supported by Higher Education Institutions, Farklı Yöntemler ile Enkapsüle Edilen Probiyotiklerin *in vivo* ve *in vitro* Etkinliğinin Belirlenmesi, 2019 - 2023

UYGUN Ü., YILMAZ R., SALANTUR A., AKRAM M. U., TOPALOĞLU Ş. B., TÜZÜN C. Y., Project Supported by Higher Education Institutions, Seçilen Yerel Buğday (*Triticum spp*) Çeşitlerinde Bazı Biyoaktif Bileşenlerin Tanımlanması ve Karakterizasyonu, 2019 - 2023

YILMAZ R., BALOĞLU M. C., CERİT Z. G., ATA H., Project Supported by Higher Education Institutions, Beyaz Peynir ve Süt İşleme Tesisinden İzole Edilen Mikrobiotanın Karakterizasyonu Yerli Starter Kültür Eldesi ve Prototip Ürün Üretimi, 2019 - 2022

YILMAZ R., TUBITAK Project, *Lactobacillus rhamnosus* Gg ve *Escherichia coli* nissle'in Mikroenkapsülasyonu ve Probiyotik Meyve Suyunda Kullanımı, 2020 - 2021

YILMAZ R., Project Supported by Higher Education Institutions, Genetik Modifiye Gıda ve Yem ürünlerinde Risk Analizinin Omik Teknolojiler Kullanılarak Gerçekleştirilmesi, 2019 - 2019

YILMAZ R., LAWRİE S. C., GRUMET R., Project Supported by Higher Education Institutions, Gıda Biyoteknolojisi ve Biyogüvenlik Çalıştay, 2017 - 2018

YILMAZ R., KURBAN M., Project Supported by Higher Education Institutions, *Saccharomyces cerevisiae* DNA barkodunun Elde Edilmesi, 2017 - 2018

YILMAZ R., UYGUN Ü., Satır C. C., SAYGILI N., Project Supported by Higher Education Institutions, YEREL MEYVELERDEN BİYOAKTİF İNGREDİYEN ÜRETİMİ, 2017 - 2017

YILMAZ R., Other International Funding Programs, Türkiye Ulusal Biyogüvenlik Çerçevesi Uygulama Projesi, 2014 - 2017

YILMAZ R., Project Supported by Higher Education Institutions, Michigan State Üniversitesi için 2015 Norman E. Borlaug Uluslararası Gıda ve Tarım Bilimi ve Teknolojisi Burs Programı Odülü, 2015 - 2016

YILMAZ R., Kobi, Et Tür Tayini Laboratuvarlar Arası Karşılaştırma Testi Çalışması, 2015 - 2016

Memberships / Tasks in Scientific Organizations

Biotechnology Association, Board Member, 2019 - Continues, Turkey

Metrics

Publication: 34

Citation (WoS): 554

Citation (Scopus): 1137

H-Index (WoS): 10

H-Index (Scopus): 12