

## Asst. Prof. ALP AYAN

### Personal Information

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### International Researcher IDs

ScholarID: q-jE8t0AAAAJ

ORCID: 0000-0003-3749-0472

Publons / Web Of Science ResearcherID: AAC-5822-2020

ScopusID: 57195300586

Yoksis Researcher ID: 185510

### Education Information

Doctorate, İstanbul University, Fen Bilimleri Enstitüsü, Radyobiyoloji (Dr), Turkey 2011 - 2019

Postgraduate, İstanbul University, Fen Bilimleri Enstitüsü, Radyobiyoloji (YI) (Tezli), Turkey 2007 - 2010

Undergraduate, İstanbul University, Fen Fakültesi, Biyoloji Bölümü, Turkey 2002 - 2007

### Foreign Languages

English, C1 Advanced

### Dissertations

Doctorate, Gama radyasyonu ile çeltik (*Oryza sativa* L.) çeşitlerinde tuzluluk toleransının teşviki, İstanbul University, Fen Bilimleri Enstitüsü, Radyobiyoloji (Dr), 2019

Postgraduate, Soya (*Glycine max* L. Merrill) doku kültüründe antioksidan savunma sistemlerine oksidatif stresin etkileri, İstanbul University, Fen Bilimleri Enstitüsü, Radyobiyoloji (YI) (Tezli), 2010

### Research Areas

Agricultural Sciences, Agriculture, Life Sciences, Natural Sciences

### Academic Titles / Tasks

İstanbul Kültür University, Fen-Edebiyat Fakültesi, Moleküler Biyoloji Ve Genetik Bölümü, 2020 - Continues

Research Assistant, İstanbul Kültür University, Fen-Edebiyat Fakültesi, Moleküler Biyoloji Ve Genetik Bölümü, 2010 - 2020

## Academic and Administrative Experience

Ders/Sınav Planlama Fakülte/MYO Sorumlusu, İstanbul Kültür University, Fen-Edebiyat Fakültesi, Moleküler Biyoloji ve Genetik, 2023 - Continues  
İstanbul Kültür University, 2020 - 2022

## Courses

Tez, Postgraduate, 2022 - 2023, 2021 - 2022  
MBG3002 Genetik Laboratuvarı, Undergraduate, 2022 - 2023  
MBG7002 Bitirme Projesi I, Undergraduate, 2022 - 2023  
Bitki Stres Fizyolojisi, Postgraduate, 2022 - 2023, 2020 - 2021  
MBG3001 Genetik, Undergraduate, 2022 - 2023  
MBG7014 Çevresel Biyoteknoloji, Undergraduate, 2022 - 2023  
MBG7007 Moleküler Evrim, Undergraduate, 2022 - 2023  
HEM3010 Genetik, Undergraduate, 2022 - 2023  
MBG1002 Genel Biyoloji I Laboratuvarı, Undergraduate, 2022 - 2023  
Model Bitkiler, Undergraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020  
Moleküler Evrim, Undergraduate, 2021 - 2022  
Genel Biyoloji II Laboratuvarı, Undergraduate, 2021 - 2022, 2020 - 2021  
Araştırma Projesi II, Undergraduate, 2021 - 2022  
Stres Biyolojisi, Doctorate, 2021 - 2022, 2020 - 2021  
Genel Biyoloji I Laboratuvarı, Undergraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016  
Bitirme Projesi II, Undergraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020  
Araştırma Projesi I, Undergraduate, 2021 - 2022  
Genomik ve Proteomik, Postgraduate, 2021 - 2022, 2020 - 2021  
Moleküler Mikrobiyoloji Laboratuvarı, Undergraduate, 2021 - 2022, 2020 - 2021  
Genel Kimya I Laboratuvarı, Undergraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016  
Biyoremediasyon, Postgraduate, 2021 - 2022, 2020 - 2021  
Genetik Laboratuvarı, Undergraduate, 2021 - 2022, 2020 - 2021  
Genel Biyoloji II, Undergraduate, 2021 - 2022, 2020 - 2021  
Moleküler Biyolojide Seçme Konular, Postgraduate, 2021 - 2022  
Çevresel Biyoteknoloji, Undergraduate, 2021 - 2022  
Bitirme Projesi I, Undergraduate, 2021 - 2022, 2020 - 2021  
Genel Kimya II Laboratuvarı, Undergraduate, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016  
Bitki Doku Kültürü, Undergraduate, 2017 - 2018, 2016 - 2017, 2015 - 2016

## Supervised Theses

ALP A., Çeltikte tuz tolerans gen ekspresyonlarının incelenmesi, Postgraduate, A.SALMAN(Student), 2022  
Ayan A., Şiddetli akut solunum yolu sendromu koronavirüsü-2'nin (SARS-COV-2) klinik COVID-19 tanı yöntemlerinde kantitatif RT-PCR (q-RT-PCR) analiz metodunun ters transkripsiyon döngü aracılı izotermal amplifikasyon (rt-lamp) analiz metoduna göre etkinliğinin karşılaştırılması, Postgraduate, Y.ARTİK(Student), 2022

## Published journal articles indexed by SCI, SSCI, and AHCI

1. Investigation of Tos17 LTR retrotransposon movements in rice (*Oryza sativa* L.) under nickel and boron stress

- MERİÇ S., AYAN A., Gunduz B., Ozpirincci C., Celik O., ATAK Ç.  
CEREAL RESEARCH COMMUNICATIONS, 2024 (SCI-Expanded)
- II. **Physiological characterization and assessment of genetic variability, yield, and quality properties of gamma-ray-induced salinity tolerant soybean (*Glycine max* (L.) Merrill) mutants**  
Atak C., Celik O., Gumus T., Meric S., Ayan A., Erdogmus M.  
JOURNAL OF APPLIED BOTANY AND FOOD QUALITY, 2024 (SCI-Expanded)
- III. **Profile-based proteomic investigation of unintended effects on transgenic and gamma radiation induced mutant soybean plants**  
MERİÇ S., AYAN A., ATAK Ç., ARI Ş.  
GENETIC RESOURCES AND CROP EVOLUTION, vol.70, no.7, pp.2077-2095, 2023 (SCI-Expanded)
- IV. **BABA pre-treatment before drought stress revealed tolerance related proteomic alterations in rice**  
Yalcin H. M., Maytalman S., Ihvan Y. F., Gumus T., MERİÇ S., AYAN A., Atak C.  
FEBS OPEN BIO, pp.323, 2022 (SCI-Expanded)
- V. **Comparison of COVID-19 laboratory diagnosis by commercial kits: Effectivity of RT-PCR to the RT-LAMP**  
Artik Y., Cosgun A. B., Cesur N. P., Hizel N., Uyar Y., Sur H., AYAN A.  
JOURNAL OF MEDICAL VIROLOGY, vol.94, no.5, pp.1998-2007, 2022 (SCI-Expanded)
- VI. **Comparison of tolerance related proteomic profiles of two drought tolerant tomato mutants improved by gamma radiation**  
Celik O., AYAN A., MERİÇ S., Atak C.  
JOURNAL OF BIOTECHNOLOGY, vol.330, pp.35-44, 2021 (SCI-Expanded)
- VII. **Raman Spectroscopic and Chemometric Investigation of Lipid-Protein Ratio Contents of Soybean Mutants**  
ÖĞRÜÇ İLDİZ G., ÇELİK Ö., ATAK Ç., YILMAZ A., Kabuk H. N., Kaygisiz E., AYAN A., MERİÇ S., Fausto R.  
APPLIED SPECTROSCOPY, vol.74, no.1, pp.34-41, 2020 (SCI-Expanded)
- VIII. **Epigenetic analysis of *WRKY* transcription factor genes in salt stressed rice (*Oryza sativa* L.) plants**  
ÇELİK Ö., MERİÇ S., AYAN A., ATAK Ç.  
ENVIRONMENTAL AND EXPERIMENTAL BOTANY, vol.159, pp.121-131, 2019 (SCI-Expanded)
- IX. **Enzymatic and non-enzymatic comparison of two different industrial tomato (*Solanum lycopersicum*) varieties against drought stress**  
ÇELİK Ö., AYAN A., ATAK Ç.  
BOTANICAL STUDIES, vol.58, 2017 (SCI-Expanded)

## Books

- I. **Stress Memory and Priming Applications in Plants: Potential for Breeders**  
Gümüş T., Aydın T., Gündüz B., Meriç S., Ayan A., Atak Ç.  
in: Recent Trends in Plant Breeding and Genetic Improvement, Mohamed A. El-Esawi, Editor, IntechOpen, London, pp.71-94, 2023
- II. **Transgenic Plants in Heat Stress Adaptation: Present Achievements and Prospects**  
Ayan A., Meriç S., Gümüş T., Atak Ç.  
in: Abiotic Stress in Plants - Adaptations to Climate Change, Manuel Oliveira, Anabela A. Fernandes Silva, Editor, IntechOpen, London, pp.123-153, 2023
- III. **Plant Abiotic Stress Factors – Current Challenges of Last Decades and Future Threats**  
Gümüş T., Meriç S., Ayan A., Atak Ç.  
in: Plant Abiotic Stress Responses and Tolerance Mechanisms, Saddam Hussain, Editor, IntechOpen, London, pp.1-27, 2023
- IV. **Current Strategies and Future of Mutation Breeding in Soybean Improvement**  
Ayan A., Meriç S., Gümüş T., Atak Ç.

in: Soybean - Recent Advances in Research and Applications, Takuji Ohyama, Editor, IntechOpen, London, pp.137-158, 2022

**V. Next Generation of Transgenic Plants: From Farming to Pharming**

Atak Ç., Ayan A., Meriç S., Gümüş T.

in: Genetically Modified Plants and Beyond, Idah Sithole Niang, Editor, IntechOpen, London, pp.49-81, 2022

**VI. Heavy Metal Stress-Responsive Phyto-miRNAs**

Çelik Ö., Ayan A., Meriç S., Atak Ç.

in: Cellular and Molecular Phytotoxicity of Heavy Metals, Mohammad Faisal, Quaiser Saquib, Abdulrahman A. Alatar, Abdulaziz A. Al-Khedhairy, Editor, Springer Nature, Berlin, pp.137-155, 2021

**VII. Plant-based Vaccines: The Future of Preventive Healthcare?**

Ayan A., Meriç S., Gümüş T.

in: Botany Recent Advances and Applications, Bimal Kumar Ghimire, Editor, IntechOpen, London, pp.57-91, 2021

**VIII. Molecular Abiotic Stress Tolerant Strategies: From Genetic Engineering to Genome Editing Era**

Ayan A., Meriç S., Atak Ç.

in: Abiotic Stress in Plants, Shah Fahad, Editor, IntechOpen, London, pp.91-126, 2020

**IX. Biotic stress-tolerant plants through small RNA technology**

Çelik Ö., Meriç S., Ayan A., Atak Ç.

in: Plant Small RNA: Biogenesis, Regulation and Application, Praveen Guleria, Vineet Kumar, Editor, Academic Press, Massachusetts, pp.435-468, 2020

## **Refereed Congress / Symposium Publications in Proceedings**

**I. Expression Analysis of Salinity-associated miRNAs in Gamma-induced Salinity Tolerant Rice (*Oryza sativa*) Mutants**

İMECE B., GÜMÜŞ T., MERİÇ S., AYAN A., ATAK Ç.

6th International Eurasian Conference on Biological and Chemical Sciences (EurasianBioChem 2023) October 11-13, 2023. www.EurasianBioChem.org, Turkey, 11 October 2023

**II. Proteomic Evaluation of Multiple Abiotic Stress Tolerant Soybean Mutants**

AYAN A., MERİÇ S., GÜMÜŞ T., ÇELİK Ö., ATAK Ç.

V. BALKAN AGRICULTURAL CONGRESS, Edirne, Turkey, 20 - 22 September 2023

**III. Retrotransposon-based genotyping on local rice (*Oryza sativa*) varieties through IRAP**

Koyak M., GÜMÜŞ T., MERİÇ S., AYAN A.

4th International Eurasian Conference on Science, Engineering and Technology (EurasianSciEnTech 2022), Ankara, Turkey, 14 - 16 December 2022, pp.220

**IV. RNA Sequencing Analysis of Salt and Drought Tolerance in Gamma-induced Soybean (*Glycine max* L. Merr.) Mutants**

AYAN A., MERİÇ S., GÜMÜŞ T., ÇELİK Ö., ATAK Ç.

IV. Balkan Agricultural Congress, Edirne, Turkey, 31 August - 02 September 2022, pp.283

**V. Induction of Hairy Root Cultures of *Calendula officinalis* L. by *Agrobacterium rhizogenes* Mediated Genetic Transformation and Production of Secondary Metabolites.**

AYDIN T., MERİÇ S., GÜMÜŞ T., AYAN A., ATAK Ç.

Third International Green Biotechnology Congress, SARAYBOSNA, Bosnia And Herzegovina, 30 September 2022

**VI. Induction of Hairy Root Cultures of *Calendula officinalis* L. by *Agrobacterium rhizogenes* Mediated Genetic Transformation and Production of Secondary Metabolites**

AYDIN T., MERİÇ S., GÜMÜŞ T., AYAN A., ATAK Ç.

III. International Green Biotechnology Congress-, Sarajevo, Bosnia And Herzegovina, 30 September - 02 October 2021, pp.41

**VII. Induction of Hairy Root Cultures of *Calendula officinalis* L. by *Agrobacterium rhizogenes* Mediated Genetic Transformation and Production of Secondary Metabolites**

MERİÇ S., GÜMÜŞ T., AYAN A., ATAK Ç.

Third International Green Biotechnology Congress 2021, Sarajevo, Bosnia And Herzegovina, 30 September - 02 October 2021

- VIII. **Vibrational Spectroscopy as a Tool to Diagnose Psychiatric and Neurodevelopmental Disorders, Through Chemometrics Analysis of Spectral Data of Blood Plasma Samples**  
ÖĞRÜÇ İLDİZ G., Rui F., BAYARI S., ÇELİK Ö., ATAK Ç., Kaygisiz E., Kabuk H. N., AYAN A., MERİÇ S., YAVUZ G., et al.  
EastWest Chemistry Conference (EWCC), Palermo, Italy, 13 - 15 November 2019
- IX. **Conformational Analysis and Photochemistry of 2-Chloro-6-fluorobenzoic Acid Monomers in Solid Xenon**  
ÖĞRÜÇ İLDİZ G., Rui F., BAYARI S., ÇELİK Ö., ATAK Ç., Kaygisiz E., Kabuk H. N., AYAN A., MERİÇ S., YAVUZ G., et al.  
EastWest Chemistry Conference (EWCC), Palermo, Italy, 13 - 15 November 2019
- X. **RAPD Analysis of Salinity and Drought Tolerant Soybean (*Glycine max* (L.) Merr) Mutants Generated by Gamma Radiation**  
ATAK Ç., ÇELİK Ö., AYAN A., ERDOĞMUŞ M.  
II. International Green Biotechnology Congress, 9 - 11 September 2019
- XI. **Optimization of Tissue Culture Media Inducing Essential Oil Production of Levander (*Lavandula angustifolia*)**  
MERİÇ S., AYAN A., ATAK Ç.  
II. International Green Biotechnology Congress, 9 - 11 September 2019
- XII. **ROS Scavenging Differences of Tomato Cultivars Under Salt Stress,**  
GÜMÜŞ T., ÇELİK Ö., AYAN A., MERİÇ S., ATAK Ç., GÜMÜŞ T.  
II. International Green Biotechnology Congress, 9 - 11 September 2019
- XIII. **ROS Scavenging Differences of Tomato Cultivars Under Salt Stress**  
GÜMÜŞ T., ÇELİK Ö., AYAN A., MERİÇ S., ATAK Ç.  
II. International Green Biotechnology Congress-, İstanbul, Turkey, 9 - 11 September 2019
- XIV. **Improving Salinity Tolerance of Local Rice Varieties by Gamma Radiation**  
AYAN A.  
International Workshop on Molecular Spectroscopy and Biological Applications, İstanbul, Turkey, 17 June 2019
- XV. **Composition Analysis of Soybean Salt-Resistant Mutants by Raman Spectroscopy and Chemometrics**  
ÖĞRÜÇ İLDİZ G., ÇELİK Ö., ATAK Ç., YILMAZ A., Kabuk H. N., Kaygisiz E., AYAN A., MERİÇ S., Fausto R.  
Analytical and Bionalytical Methods Conference, San-Francisco, Costa Rica, 29 April - 01 May 2019
- XVI. **Lipid/Protein Ratio Contents of Soybean Mutants: A Raman Spectroscopic and Chemometrics Investigation**  
ÖĞRÜÇ İLDİZ G., ÇELİK Ö., ATAK Ç., YILMAZ A., Kabuk H., Kaygisiz E., AYAN A., MERİÇ S., Rui F.  
XXXIV EUROPEAN CONGRESS ON MOLECULAR SPECTROSCOPY, Coimbra, Portugal, 19 - 24 August 2018
- XVII. **Magnetic field induced production of anti-cancer agent vincristine from Madagascar Periwinkle (*Catharanthus roseus*) plant**  
ÇELİK Ö., MERİÇ S., AYAN A., Tas M., Avcilar C., ATAK Ç.  
European Biotechnology Congress, Dubrovnik, Croatia, 25 - 27 May 2017
- XVIII. **Investigation of Tos-17 transposon mobility in salt stressed rice (*Oryza sativa* L.) plants by IRAP method**  
MERİÇ S., ÇELİK Ö., AYAN A., Gunduz B., ATAK Ç.  
European Biotechnology Congress, Dubrovnik, Croatia, 25 - 27 May 2017
- XIX. **Two-dimensional protein profiles of drought tolerant tomato (*Solanum lycopersicum*) mutants improved by gamma radiation**  
AYAN A., ÇELİK Ö., MERİÇ S., Topcuoglu B., ATAK Ç.  
European Biotechnology Congress, Dubrovnik, Croatia, 25 - 27 May 2017
- XX. **Inducing salt tolerance in rice (*Oryza sativa* L.) varieties by gamma radiation**  
AYAN A., ÇELİK Ö., MERİÇ S., ATAK Ç.  
European Biotechnology Congress, Dubrovnik, Croatia, 25 - 27 May 2017
- XXI. **Antioxidative defense system differences to drought stress of tomato cultivars**  
AYAN A., ÇELİK Ö., ATAK Ç.

European Biotechnology Congress, Lecce, Italy, 15 - 18 May 2014

**XXII. DETERMINING THE SALT SENSITIVITY OF OSMANCIK 97 AND MEVLUTBEY RICE *Oryza sativa* L VARIETIES**

ATAK Ç., AYAN A.

The First International Biology Congress in Kyrgyzstan, 24 - 27 September 2012, pp.171

**XXIII. INDUCED MUTATION BY GAMMA RADIATION FOR SALT TOLERANCE IN RICE *Oryza sativa* L**

ATAK Ç., AYAN A.

The First International Biology Congress in Kyrgyzstan, 24 - 27 September 2012, pp.170-171

**XXIV. Gama radyasyonu ile teşvik edilen tuza toleranslı patates *Solanum tuberosum* L mutantlarında biyokimyasal değişmelerin incelenmesi**

YAYCILI O., AYAN A.

X. Ulusal Nükleer Bilimler ve Teknolojileri Kongresi, Muğla, Turkey, 6 - 09 October 2009

## **Metrics**

Publication: 42

Citation (WoS): 48

Citation (Scopus): 69

H-Index (WoS): 3

H-Index (Scopus): 5