

Doç.Dr. UTKU AVCI

Kişisel Bilgiler

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Uluslararası Araştırmacı ID'leri

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Yoksis Araştırmacı ID: 240556

Eğitim Bilgileri

Doktora, North Carolina State University, College Of Agriculture And Life Sciences, Amerika Birleşik Devletleri 2003 - 2007

Lisans, Karadeniz Teknik Üniversitesi, Fen-Edebiyat Fakültesi, Biyoloji, Türkiye 1996 - 2000

Yabancı Diller

İngilizce, C1 İleri

Yaptığı Tezler

Doktora, Electron Microscopy Complements Genetic Manipulation for Understanding Xylem Development, North Carolina State University, College Of Agricultural And Life Sciences, Crop Science, 2007

Araştırma Alanları

Yaşam Bilimleri, Bitki Biyolojisi, Bitki Histolojisi ve Sitolojisi, Bitkilerin Büyüme ve Gelişimi, Biyokimya, Bitki Biyokimyası, Biyoinformatik, Biyoçeşitlilik, Biyoteknoloji, Bitki Biyoteknolojisi, Endüstriyel Biyoteknoloji, Mikrobiyoloji, İmmünoloji, Moleküler Biyoloji ve Genetik , Bitki Moleküler Genetiği, Temel Bilimler

Akademik Unvanlar / Görevler

Doç.Dr., Recep Tayyip Erdoğan Üniversitesi, Mühendislik Fakültesi, Biyomühendislik Bölümü, 2019 - Devam Ediyor

Dr.Öğr.Üyesi, Recep Tayyip Erdoğan Üniversitesi, Mühendislik Fakültesi, Biyomühendislik, 2018 - Devam Ediyor

Yrd.Doç.Dr., Recep Tayyip Erdoğan Üniversitesi, Mühendislik Fakültesi, Biyomühendislik, 2015 - 2018

Diğer, University of Georgia, Ccrc, Complex Carbohydrate Research Center, 2008 - 2015

SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler

1. Effects of Extractive Ammonia Pretreatment on the Ultrastructure and Glycan Composition of Corn Stover

Avci U., Zhou X., Pattathil S., Sousa L. d. C., Hahn M. G., Dale B., Xu Y., Balan V.

FRONTIERS IN ENERGY RESEARCH, cilt.7, 2019 (SCI-Expanded)

- II. **Desirable plant cell wall traits for higher-quality miscanthus lignocellulosic biomass**
da Costa R. M. F., Pattathil S., Avci U., Winters A., Hahn M. G., Bosch M.
BIOTECHNOLOGY FOR BIOFUELS, cilt.12, 2019 (SCI-Expanded)
- III. **Changes in the abundance of cell wall apiogalacturonan and xylogalacturonan and conservation of rhamnogalacturonan II structure during the diversification of the Lemnoideae**
Avci U., PENA M. J., O'NEILL M. A.
PLANTA, cilt.247, sa.4, ss.953-971, 2018 (SCI-Expanded)
- IV. **Immunolocalization of cell wall carbohydrate epitopes in seaweeds: presence of land plant epitopes in *Fucus vesiculosus* L. (Phaeophyceae)**
RAIMUNDO S. C., Avci U., HOPPER C., PATTATHIL S., HAHN M. G., POPPER Z. A.
PLANTA, cilt.243, sa.2, ss.337-354, 2016 (SCI-Expanded)
- V. **Next-generation ammonia pretreatment enhances cellulosic biofuel production**
Sousa L. d. C., Jin M., Chundawat S. P. S., BOKADE V., TANG X., AZARPIRA A., LU F., Avci U., Humpula J., Uppugundla N., et al.
ENERGY & ENVIRONMENTAL SCIENCE, cilt.9, sa.4, ss.1215-1223, 2016 (SCI-Expanded)
- VI. **Plant biomass: insights from imaging cell walls using molecular probes**
Avci U.
TURKISH JOURNAL OF BOTANY, cilt.40, sa.6, ss.561-565, 2016 (SCI-Expanded)
- VII. **Loss of function of folylpolyglutamate synthetase 1 reduces lignin content and improves cell wall digestibility in *Arabidopsis***
SRIVASTAVA A. C., CHEN F., RAY T., PATTATHIL S., PENA M. J., Avci U., LI H., HUHMANN D. V., BACKE J., URBANOWICZ B., et al.
BIOTECHNOLOGY FOR BIOFUELS, cilt.8, 2015 (SCI-Expanded)
- VIII. **Xyloglucan, galactomannan, glucuronoxylan, and rhamnogalacturonan I do not have identical structures in soybean root and root hair cell walls**
MUSZYNSKI A., O'NEILL M. A., RAMASAMY E., PATTATHIL S., Avci U., PENA M. J., LIBAULT M., HOSSAIN M. S., BRECHENMACHER L., YORK W. S., et al.
PLANTA, cilt.242, sa.5, ss.1123-1138, 2015 (SCI-Expanded)
- IX. **Activation of miR165b represses AtHB15 expression and induces pith secondary wall development in *Arabidopsis***
Du Q., Avci U., LI S., GALLEGU-GIRALDO L., PATTATHIL S., Qi L., HAHN M. G., Wang H.
PLANT JOURNAL, cilt.83, sa.3, ss.388-400, 2015 (SCI-Expanded)
- X. **Pathways of bacterial invasion and watermelon seed infection by *Acidovorax citrulli***
DUTTA B., HA Y., LESSL J. T., Avci U., SPARKS A. C., Johnson K. L., WALCOTT R. R.
PLANT PATHOLOGY, cilt.64, sa.3, ss.537-544, 2015 (SCI-Expanded)
- XI. **Galactose-Depleted Xyloglucan Is Dysfunctional and Leads to Dwarfism in *Arabidopsis***
KONG Y., PENA M. J., Renna L., Avci U., PATTATHIL S., TUOMIVAARA S. T., Li X., Reiter W., Brandizzi F., HAHN M. G., et al.
PLANT PHYSIOLOGY, cilt.167, sa.4, ss.1296-1324, 2015 (SCI-Expanded)
- XII. **Changes in Cell Wall Properties Coincide with Overexpression of Extensin Fusion Proteins in Suspension Cultured Tobacco Cells**
TAN L., PU Y., PATTATHIL S., Avci U., QIAN J., Arter A., Chen L., HAHN M. G., RAGAUSKAS A. J., Kieliszewski M. J.
PLOS ONE, cilt.9, sa.12, 2014 (SCI-Expanded)
- XIII. **Transmission of *Pantoea ananatis* and P-agglomerans, Causal Agents of Center Rot of Onion (*Allium cepa*), by Onion Thrips (*Thrips tabaci*) Through Feces**
DUTTA B., BARMAN A. K., SRINIVASAN R., Avci U., ULLMAN D. E., LANGSTON D. B., GITAITIS R. D.
PHYTOPATHOLOGY, cilt.104, sa.8, ss.812-819, 2014 (SCI-Expanded)
- XIV. **Loss of *Arabidopsis* GAUT12/IRX8 causes anther indehiscence and leads to reduced G lignin associated with altered matrix polysaccharide deposition**

HAO Z., Avci U., TAN L., ZHU X., GLUSHKA J., PATTATHIL S., EBERHARD S., SHOLES T., Rothstein G. E., LUKOWITZ W., et al.

FRONTIERS IN PLANT SCIENCE, cilt.5, 2014 (SCI-Expanded)

- XV. **Understanding How the Complex Molecular Architecture of Mannan-degrading Hydrolases Contributes to Plant Cell Wall Degradation**
ZHANG X., ROGOWSKI A., ZHAO L., HAHN M. G., Avci U., Knox J. P., GILBERT H. J.
JOURNAL OF BIOLOGICAL CHEMISTRY, cilt.289, sa.4, ss.2002-2012, 2014 (SCI-Expanded)
- XVI. **Cotton Fiber Cell Walls of *Gossypium hirsutum* and *Gossypium barbadense* Have Differences Related to Loosely-Bound Xyloglucan**
Avci U., PATTATHIL S., SINGH B., BROWN V. L., HAHN M. G., Haigler C. H.
PLOS ONE, cilt.8, sa.2, 2013 (SCI-Expanded)
- XVII. **An Arabidopsis Cell Wall Proteoglycan Consists of Pectin and Arabinoxylan Covalently Linked to an Arabinogalactan Protein**
TAN L., EBERHARD S., PATTATHIL S., WARDER C., GLUSHKA J., Yuan C., HAO Z., ZHU X., Avci U., MILLER J. S., et al.
PLANT CELL, cilt.25, sa.1, ss.270-287, 2013 (SCI-Expanded)
- XVIII. **4-O-methylation of glucuronic acid in Arabidopsis glucuronoxylan is catalyzed by a domain of unknown function family 579 protein**
URBANOWICZ B. R., PENA M. J., RATNAPARKHE S., Avci U., BACKE J., STEET H. F., FOSTON M., LI H., O'NEILL M. A., RAGAUSKAS A. J., et al.
PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, cilt.109, sa.35, ss.14253-14258, 2012 (SCI-Expanded)
- XIX. **Mutations in Multiple XXT Genes of Arabidopsis Reveal the Complexity of Xyloglucan Biosynthesis**
Zabotina O. A., Avci U., Cavalier D., PATTATHIL S., Chou Y., EBERHARD S., Danhof L., Keegstra K., HAHN M. G.
PLANT PHYSIOLOGY, cilt.159, sa.4, ss.1367-1384, 2012 (SCI-Expanded)
- XX. **Location of *Acidovorax citrulli* in Infested Watermelon Seeds Is Influenced by the Pathway of Bacterial Invasion**
DUTTA B., Avci U., HAHN M. G., WALCOTT R. R.
PHYTOPATHOLOGY, cilt.102, sa.5, ss.461-468, 2012 (SCI-Expanded)
- XXI. **The ability of land plants to synthesize glucuronoxylans predates the evolution of tracheophytes**
KULKARNI A. R., PENA M. J., Avci U., MAZUMDER K., URBANOWICZ B. R., PATTATHIL S., YIN Y., O'NEILL M. A., Roberts A. W., HAHN M. G., et al.
GLYCOBIOLOGY, cilt.22, sa.3, ss.439-451, 2012 (SCI-Expanded)
- XXII. **Application of monoclonal antibodies to investigate plant cell wall deconstruction for biofuels production**
DEMARTINI J. D., PATTATHIL S., Avci U., SZEKALSKI K., MAZUMDER K., HAHN M. G., WYMAN C. E.
ENERGY & ENVIRONMENTAL SCIENCE, cilt.4, sa.10, ss.4332-4339, 2011 (SCI-Expanded)
- XXIII. **Perturbation of Wood Cellulose Synthesis Causes Pleiotropic Effects in Transgenic Aspen**
Joshi C. P., Thammannagowda S., Fujino T., Gou J., Avci U., Haigler C. H., McDonnell L. M., Mansfield S. D., MENGESHA B., CARPITA N. C., et al.
MOLECULAR PLANT, cilt.4, sa.2, ss.331-345, 2011 (SCI-Expanded)
- XXIV. **Mutation of WRKY transcription factors initiates pith secondary wall formation and increases stem biomass in dicotyledonous plants**
WANG H., Avci U., NAKASHIMA J., HAHN M. G., CHEN F., DIXON R. A.
PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, cilt.107, sa.51, ss.22338-22343, 2010 (SCI-Expanded)
- XXV. **A Comprehensive Toolkit of Plant Cell Wall Glycan-Directed Monoclonal Antibodies**
PATTATHIL S., Avci U., BALDWIN D., SWENNES A. G., MCGILL J. A., POPPER Z., BOOTTEN T., ALBERT A., DAVIS R. H., CHENNAREDDY C., et al.
PLANT PHYSIOLOGY, cilt.153, sa.2, ss.514-525, 2010 (SCI-Expanded)
- XXVI. **Monoclonal antibodies against diverse xyloglucan structures as probes for plant cell wall chemistry and ultrastructure**

- TUOMIVAARA S., Avci U., O'NEILL M., HAHN M. G., YORK W. S.
FASEB JOURNAL, cilt.24, 2010 (SCI-Expanded)
- XXVII. **The Bioenergy Science Center (BESC) and Overcoming Recalcitrance of Populus to Biofuel Production**
Mohsen D., Biswal A., Hao Zhangying H. Z., Sholes T., Gelineo-Albersheim I., Hunt K., Darvill A., Hahn M., Kong Yingzhen K. Y., Zhou Gongke Z. G., et al.
IN VITRO CELLULAR & DEVELOPMENTAL BIOLOGY-ANIMAL, cilt.46, 2010 (SCI-Expanded)
- XXVIII. **Rapid Microwave Processing of Winter Cereals for Histology Allows Identification of Separate Zones of Freezing Injury in the Crown**
LIVINGSTON D. P., TUONG T. D., Haigler C. H., Avci U., TALLURY S. P.
CROP SCIENCE, cilt.49, sa.5, ss.1837-1842, 2009 (SCI-Expanded)
- XXIX. **Two Poplar Glycosyltransferase Genes, PdGATL1.1 and PdGATL1.2, Are Functional Orthologs to PARVUS/AtGATL1 in Arabidopsis**
KONG Y., ZHOU G., Avci U., GU X., JONES C., YIN Y., XU Y., HAHN M. G.
MOLECULAR PLANT, cilt.2, sa.5, ss.1040-1050, 2009 (SCI-Expanded)
- XXX. **A Specialized Outer Layer of the Primary Cell Wall Joins Elongating Cotton Fibers into Tissue-Like Bundles**
Singh B., Avci U., INWOOD S. E. E., GRIMSON M. J., Landgraf J., MOHNEN D., Sorensen I., Wilkerson C. G., Willats W. G. T., Haigler C. H.
PLANT PHYSIOLOGY, cilt.150, sa.2, ss.684-699, 2009 (SCI-Expanded)
- XXXI. **Cysteine proteases XCP1 and XCP2 aid micro-autolysis within the intact central vacuole during xylogenesis in Arabidopsis roots**
Avci U., PETZOLD H. E., ISMAIL I. O., BEERS E. P., Haigler C. H.
PLANT JOURNAL, cilt.56, sa.2, ss.303-315, 2008 (SCI-Expanded)
- XXXII. **XND1, a member of the NAC domain family in Arabidopsis thaliana, negatively regulates lignocellulose synthesis and programmed cell death in xylem**
ZHAO C., Avci U., GRANT E. H., Haigler C. H., BEERS E. P.
PLANT JOURNAL, cilt.53, sa.3, ss.425-436, 2008 (SCI-Expanded)

Diğer Dergilerde Yayınlanan Makaleler

- I. **Yüksek Frekanslı Elektromanyetik Radyasyon ve Bitki Gelişimi**
AVCI U.
Recep Tayyip Erdoğan Üniversitesi Fen ve Mühendislik Bilimleri Dergisi, cilt.1, sa.1, ss.68-73, 2020 (Hakemli Dergi)

Kitap & Kitap Bölümleri

- I. **A Flat Embedding Method to Orient Thin Biological Samples for Sectioning**
AVCI U., Nakashima J.
Plant Gravitropism, Elison B. Blancaflor, Editör, Springer New York, New York, ss.13-22, 2015
- II. **A Flat Embedding Method to Orient Thin Biological Samples for Sectioning**
AVCI U., Nakashima J.
Plant Gravitropism, Elison B. Blancaflor, Editör, Springer New York, ss.13-22, 2015
- III. **Immunological Approaches to Plant Cell Wall and Biomass Characterization: Glycome Profiling**
Pattathil S., AVCI U., Hahn M. G.
Biomass Conversion Methods and Protocols, Michael E. Himmel, Editör, Humana Press, New York, ss.61-72, 2012
- IV. **Immunological Approaches to Plant Cell Wall and Biomass Characterization: Immunolocalization of Glycan Epitopes**
AVCI U., Pattathil S., Hahn M. G.

Biomass Conversion Methods and Protocols, Michael E Himmel, Editör, Humana Press, New York, ss.73-82, 2012

V. From Plant Cell Walls to Biofuels—Arabidopsis thaliana Model

Pattathil S., AVCI U., Biswal A., Badhan A. K.

Handbook of Bioenergy Crop Plants, Chittaranjan Kole, Chandrashekhar P. Joshi, David R. Shonnard, Editör, Crc Press, Boca Raton, ss.75-97, 2012

Hakemli Kongre / Sempozyum Bildiri Kitaplarında Yer Alan Yayınlar

- I. Diversity of Plant Cell Walls**
AVCI U.
Eurasian Congress on Molecular Biotechnology, 21 - 23 Eylül 2019
- II. Illuminating Plant Cell Walls**
AVCI U.
International Congress on Biological and Medical Science, 31 Ekim - 03 Kasım 2018
- III. Imaging cell walls of a model grass Brachypodium distachyon**
AVCI U.
22nd edition of International Conference on Biotechnology, 16 - 17 Nisan 2018
- IV. Imaging plant cell walls by using molecular probes**
AVCI U.
International Conference on Technology, Engineering and Science, 26 Kasım - 29 Aralık 2017
- V. Insights from imaging plant cell walls by using molecular probes**
AVCI U.
International Conference on Biological Sciences, Konya, Türkiye, 21 - 23 Ekim 2016
- VI. The cell walls of Spirodela polyrrhiza greater duckweed Polysaccharide composition and distribution**
AVCI U., PATTATHIL S., Michael G H., ONEILL M. A.
Gordon Research Conference on Plant Cell Walls, Waltham, 12 - 17 Temmuz 2015
- VII. Effects of extractive ammonia pretreatment on the ultrastructure and glycan composition of plant cell walls**
AVCI U., Leonardo da Costa S., Sivakumar P., Venkatesh B., Michael G H., Bruce E D.
37th Symposium on Biotechnology for Fuels and Chemicals, San Diego, Amerika Birleşik Devletleri, 27 - 30 Nisan 2015
- VIII. Characterization of monoclonal antibodies against xylan epitopes**
AVCI U., Pattathil S., Clay R., Mazumder K., York W., Hahn M.
The XIIIth Cell Wall Meeting, Nantes, Fransa, 7 - 12 Temmuz 2013
- IX. Insights into plant cell wall structure and dynamics using glycan directed monoclonal antibodies**
AVCI U.
5th Annual BioEnergy Science Retreat, Chattanooga, Amerika Birleşik Devletleri, 18 Temmuz 2011
- X. Distribution of cell wall glycans in switchgrass Panicum virgatum**
AVCI U.
33rd Symposium on Biotechnology for Fuels and Chemicals, 02 Mayıs 2011

Metrikler

Yayın: 48

Atıf (WoS): 1695

Atıf (Scopus): 1784

H-İndeks (WoS): 20

H-İndeks (Scopus): 20

Kongre ve Sempozyum Katılımı Faaliyetleri

Gordon Research Conference on Plant Cell Walls, Katılımcı, Massachusetts, Amerika Birleşik Devletleri, 2015

37th Symposium on Biotechnology for Fuels and Chemicals, Katılımcı, California, Amerika Birleşik Devletleri, 2015

The XIIIth Cell Wall Meeting, Katılımcı, Nantes, Fransa, 2013

Gordon Research Conference on Plant Cell Walls, Katılımcı, Maine, Amerika Birleşik Devletleri, 2012

33rd Symposium on Biotechnology for Fuels and Chemicals, Katılımcı, Washington, Amerika Birleşik Devletleri, 2011

XII Cell Wall Meeting, Katılımcı, Porto, Portekiz, 2010