

Asst. Prof. ÖMER AYDIN

Personal Information

Other Email: biomer@umich.edu

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Education Information

Post Doctorate, The National Institute Of Health, Clinical Center, Radiology And Imaging Sciences, United States Of America 2016 - 2018

Doctorate, University Of Michigan, School Of Engineering, Biomedical Engineering, United States Of America 2010 - 2016

Post Graduate, Yeditepe Üniversitesi, Fen Bilimleri Enst., Biyoteknoloji, Turkey 2007 - 2009

Under Graduate, Başkent Üniversitesi, Mühendislik Fakültesi, Biyomedikal Mühendisliği, Turkey 2003 - 2007

Foreign Languages

English, C1 Advanced

Research Areas

Biomedical Engineering, Engineering and Technology

Academic Titles / Tasks

Assistant Professor, Erciyes University, Mühendislik Fakültesi, Biyomedikal Mühendisliği , 2019 - Continues

Lecturer, Erciyes University, Mühendislik Fakültesi, Biyomedikal Mühendisliği , 2018 - 2019

Lecturer, Bogazici University, Institute Of Biomedical Engineering, --, 2017 - 2018

Researcher, National Institute of Health, Clinical Center, Radiology and Imaging Sciences, 2016 - 2018

Research Assistant, University of Michigan, School of Engineering, Department of Biomedical Engineering, 2010 - 2016

Research Assistant, Yeditepe University, Faculty Of Engineering And Architecture, Department Of Genetics And Bioengineering, 2007 - 2009

Professional Experience

Deputy Director of the Center, Erciyes University, Mühendislik Fakültesi, Biyomedikal Mühendisliği , 2020 - Continues

Deputy Head of Department, Erciyes University, Mühendislik Fakültesi, Biyomedikal Mühendisliği , 2020 - Continues

Rectorate Commissioner, Erciyes University, Mühendislik Fakültesi, Biyomedikal Mühendisliği , 2019 - Continues

Erasmus Coordinator, Erciyes University, Mühendislik Fakültesi, Biyomedikal Mühendisliği , 2019 - Continues

Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes



Usage of natural chitosan membrane obtained from insect corneal lenses as a drug carrier and its

potential for point of care tests

Ikl S., Ramanauskaitė A., Bilican B. K. , Mulercikas P., Cam D., ÖNSES M. S. , TÖRÜN İ., Kazlauskaitė S., Baublys V., AYDIN Ö., et al.

MATERIALS SCIENCE & ENGINEERING C-MATERIALS FOR BIOLOGICAL APPLICATIONS, vol.112, 2020 (Journal Indexed in SCI)

● **The Proteomic Effects of Pulsed Focused Ultrasound on Tumor Microenvironments of Murine Melanoma and Breast Cancer Models.**

Aydin Ö., Chandran P., Lorsung R., Cohen G., Burks S., Frank J.

Ultrasound in medicine & biology, vol.45, pp.3232-3245, 2019 (Journal Indexed in SCI)

● **Noninvasive Ablation of Prostate Cancer Spheroids Using Acoustically-Activated Nanodroplets**

Aydin O., VLAŠAVLJEVIČ E., Durmaz Y. Y. , XU Z., ElSayed M. E. H.

MOLECULAR PHARMACEUTICS, vol.13, pp.4054-4065, 2016 (Journal Indexed in SCI)

● **EFFECTS OF DROPLET COMPOSITION ON NANODROPLET-MEDIATED HISTOTRIPSY**

VLAŠAVLJEVIČ E., Aydin O., Durmaz Y. Y. , LİN K., FOWLKES B., XU Z., ElSayed M. E. H.

ULTRASOUND IN MEDICINE AND BIOLOGY, vol.42, pp.931-946, 2016 (Journal Indexed in SCI)

● **Formulation of Acid-Sensitive Micelles for Delivery of Cabazitaxel into Prostate Cancer Cells**

Aydin O., YOUSSEF I., Durmaz Y. Y. , TIRUCHINAPALLY G., ElSayed M. E. H.

MOLECULAR PHARMACEUTICS, vol.13, pp.1413-1429, 2016 (Journal Indexed in SCI)

● **The role of positive and negative pressure on cavitation nucleation in nanodroplet-mediated histotripsy**

Vlaisavljevich E., Aydin O., Lin K., Durmaz Y. Y. , Fowlkes B., ElSayed M., Xu Z.

PHYSICS IN MEDICINE AND BIOLOGY, vol.61, pp.663-682, 2016 (Journal Indexed in SCI)

● **EFFECTS OF ULTRASOUND FREQUENCY ON NANODROPLET-MEDIATED HISTOTRIPSY**

VLAŠAVLJEVIČ E., Aydin O., Durmaz Y. Y. , Lin K., Fowlkes B., Elsayed M., Xu Z.

ULTRASOUND IN MEDICINE AND BIOLOGY, vol.41, pp.2135-2147, 2015 (Journal Indexed in SCI)

● **Oligonucleotide-Mediated Au-Ag Core-Shell Nanoparticles**

Kahraman M., Aydin O., Culha M.

PLASMONICS, vol.4, pp.293-301, 2009 (Journal Indexed in SCI)

● **Differentiation of Healthy Brain Tissue and Tumors Using Surface-Enhanced Raman Scattering**

Aydin O., Altaş M., Kahraman M., Bayrak O. F. , Culha M.

APPLIED SPECTROSCOPY, vol.63, pp.1095-1100, 2009 (Journal Indexed in SCI)

● **Interaction of gold nanoparticles with mitochondria**

Karatas O. F. , Sezgin E., Aydin O., Culha M.

COLLOIDS AND SURFACES B-BIOINTERFACES, vol.71, pp.315-318, 2009 (Journal Indexed in SCI)

● **Surface-Enhanced Raman Scattering of Rat Tissues**

Aydin O., Kahraman M., Kilic E., Culha M.

APPLIED SPECTROSCOPY, vol.63, pp.662-668, 2009 (Journal Indexed in SCI)

● **Size Effect of 3D Aggregates Assembled from Silver Nanoparticles on Surface-Enhanced Raman Scattering**

Kahraman M., Aydin O., Culha M.

CHEMPHYSICHEM, vol.10, pp.537-542, 2009 (Journal Indexed in SCI)

Refereed Congress / Symposium Publications in Proceedings

● **Toward PCR-free mutation detection based on surface-enhanced Raman scattering**

ÇULHA M., KARATAŞ Ö. F. , AYDIN Ö., Kahraman M., Keseroğlu K., Sayın İ., Bayrak Ö. F.

SPIE 7192, Plasmonics in Biology and Medicine VI, San Jose, United States Of America, 17 - 21 February 2009, pp.701-710

Episodes in the Encyclopedia

- **Encyclopedia of Nanoscience and Nanotechnology,**
ÇULHA M., KAHRAMAN M., KARATAŞ Ö. F. , AYDIN Ö.
American Scientific Publishers, pp., 2009

Supported Projects

- ÖNSES M. S. , ERTAŞ Y. N. , YILMAZ E., PEKDEMİR S., TÖRÜN İ., ŞAKİR M., AYDIN Ö., ÖZDEMİR A. T. , YILDIZ F., Project Supported by Higher Education Institutions, Sensör Uygulamaları için Nanoyapılı Plazmonik Yüzeylerin Üretilmesi ve Karakterizasyonu, 2020 - Continues
- TOKMAKÇI M., AYDIN Ö., UYSAL ÇİLOĞLU F., Project Supported by Higher Education Institutions, Yüzey Zenginleştirilmiş Raman Spektroskopisi İle Elde Edilen Biyolojik Verilerin Makine Öğrenmesi Yöntemleri İle Sınıflandırılması, 2020 - Continues
- AYDIN Ö., ARSLAN A. H. , Project Supported by Higher Education Institutions, Cryptosporidium parvum Ookistlerinin Yüzeyde Zenginleştirilmiş Raman Saçılması SERS ile İncelenmesi, 2020 - Continues
- AYDIN Ö., TUNÇ C. Ü. , Project Supported by Higher Education Institutions, Altın Nanopartikülleri Kullanılarak Eş Zamanlı Gen ve İlaç Taşınması ile Meme Kanseri Hücrelerinde Antitümör Aktivitenin Artırılması, 2020 - Continues
- AYDIN Ö., YÜKSEL DURMAZ Y., ÖZKUL Y., KANARYA D., YILMAZ Ü., EU Supported Other Project, “siRNA Taşıyıcı Ultrason-Aktif Akıllı Nanoparçacıkların Geliştirilmesi ve Ultrasonun Gen Taşınımına Katkısının İncelenmesi”, 2019 - Continues
- YILMAZ E., ŞAHMETLİOĞLU E., ÖNSES M. S. , AYDIN Ö., PEKDEMİR S., SEZER G., YAY A. H. , SANDUVAÇ S., Project Supported by Higher Education Institutions, Yüzeyde Güçlendirilmiş Raman Spektroskopisi (SERS) Temelli İlaç Analizlerinde Fotokatalitik Olarak Üretilmiş Metal Nanopartiküllerin Kullanımı, 2019 - Continues
- Uysal Çiloğlu F., Tokmakçı M., Kahraman M., Aydın Ö., TÜBİTAK Project, Metisilin Dirençli ve Duyarlı Staphylococcus Aureus Suşlarının Yüzey Zenginleştirilmiş Raman Saçılması Üzerinden Derin Sinir Ağları ile Hızlı Tespiti, 2020 - 2021
- ÖZDARENDELİ A., EKEN A., DOĞANAY M., AKTAŞ Y., SEZER Z., AYDIN Ö., YÜCEL Ç., ÖZCAN S., TÜBİTAK Project, İnsanlarda Enfeksiyon Hastalıklarına ve Kansere Karşı İleri Teknoloji Kullanarak Prototip Aşıların Geliştirilmesi, 2018 - 2020

Memberships / Tasks in Scientific Organizations

- Member, 2018 - Continues
- Member, 2013 - Continues
- Member, 2012 - Continues

Scientific Refereeing

- MOLECULAR ONCOLOGY, SCI Journal, October 2020
- Turkey Institutes of Health Administration Project, Erciyes University, Turkey, October 2020
- TÜBİTAK Project, 1002 - Quick Support Program, Erciyes University, Turkey, September 2020
- TÜBİTAK Project, 1002 - Quick Support Program, Erciyes University, Turkey, September 2020
- NANOTECHNOLOGY, SCI Journal, August 2020
- NANOTECHNOLOGY, SCI Journal, July 2020
- NANOTECHNOLOGY, SCI Journal, May 2020
- Theranostics, SCI Journal, February 2020
- MOLECULAR ONCOLOGY, SCI Journal, February 2020
- MOLECULAR ONCOLOGY, SCI Journal, January 2020
- TÜBİTAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Erciyes University, Turkey, December 2019

PHYSICA SCRIPTA, SCI Journal, September 2019

TUBITAK Project, 1002 - Quick Support Program, Erciyes University, Turkey, September 2019

TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Erciyes University, Turkey, June 2019

J. Phys. D: Appl. Phys, SCI Journal, February 2019

Nanotechnology, SCI Journal, July 2018

Nanotechnology, SCI Journal, May 2018

Nanotechnology, SCI Journal, January 2018

Nanotechnology, SCI Journal, November 2017

Nanotechnology, SCI Journal, October 2017

Measurement Science and Technology, SCI Journal, July 2017

Biomedical Materials, SCI Journal, June 2017

Biofabrication, SCI Journal, December 2016

Gazi Üniversitesi Fen Bilimleri Dergisi Part C: Tasarım ve Teknoloji , National Scientific Refreed Journal, September 2016

Nanotechnology, SCI Journal, September 2016

Invited Congress and Symposium Activities

2nd International Congress of Updates in Biomedical Engineering April 16-17, 2020, Invited Speaker, İzmir, Turkey, 2020

5th Life Sciences Conference, Invited Speaker, Kayseri, Turkey, 2020

The 13th Conferences of Affinity Techniques, Invited Speaker, İzmir, Turkey, 2019

FACSS- A Single Nucleotide Polymorphism Screening Method Based on Surface-Enhanced Raman Scattering, Attendee, Nevada, United States Of America, 2008

National Analytical Chemistry Congress- Application of Surface Plasmons on Analytical and Bioanalytical Chemistry, Attendee, Elazığ, Turkey, 2008

NANOTR- Monitoring The Interactions of The Noble Metal Nanoparticles with Biomolecules and Structures in Biological Systems, Attendee, Turkey, 2008

NANOTR- Laser Wavelength Dependence of Surface-enhanced Raman Scattering Substrates, Attendee, Turkey, 2008

NANOTR- Monitoring The Interactions of The Noble Metal Nanoparticles with Biomolecules and Structures in Biological Systems, Attendee, Turkey, 2008

NANOTR- Modified Gold Nanoparticles for Bioanalysis, Attendee, Turkey, 2008

NANOTR- Towards Cancer Diagnosis by Intracellularly Grown Gold Nanoparticles, Attendee, Turkey, 2008

NANOTR- Nanoparticle Aggregation Control in Micron-Size Wells, Attendee, Turkey, 2008

NANOTR- Development of Novel SERS Substrate via Controlling Inter-Particle Distance, Attendee, İstanbul, Turkey, 2008

NANOTR- Interaction of Gold and Silver Nanoparticles with Subcellular Structures, Attendee, Turkey, 2008

BIYOMUT-A New Detection Method for Tissue Differentiation, Attendee, Ankara, Turkey, 2008

EMBO-The Influence of Nanoparticles on Cancerous Cell Lines, Attendee, İstanbul, Turkey, 2008

Citations

Total Citations (WOS):222

h-index (WOS):9

Invited Talks

Development of Novel Nanomedicines for Treatment of Primary and Metastatic Prostate Cancer and Pulsed Focused Ultrasound (pFUS) Modulation of Tumor Microenvironments, Seminar, Yeditepe Üniversitesi, Turkey, March 2018

Engineering of Ultrasound Active Nanobubbles and Ultrasound-based Immunotherapy, Seminar, Acibadem Mehmet Ali

Aydınlar Üniversitesi, Turkey, November 2017

Development of Novel Nanomedicines for Treatment of Primary and Metastatic Prostate Cancer, Seminar, İzmir

Demokrasi Üniversitesi, Turkey, November 2017

Engineering of Ultrasound Active Nanobubbles and Ultrasound-based Immunotherapy, Seminar, TÜBİTAK-UME, Turkey, October 2017

Nanomedicine and Biomedical Engineering, Seminar, Pamukkale Üniversitesi, Turkey, October 2017

Development of Novel Nanomedicines for Treatment of Primary and Metastatic Prostate Cancer and Pulsed Focused Ultrasound (pFUS) Modulation of Tumor Microenvironments, Seminar, Boğaziçi Üniversitesi, Turkey, October 2017

Development of Novel Nanomedicines for Treatment of Primary and Metastatic Prostate Cancer and Pulsed Focused Ultrasound (pFUS) Modulation of Tumor Microenvironments, Seminar, Gebze Teknik Üniversitesi, Turkey, September 2017

Development of Novel Nanomedicines for Treatment of Primary and Metastatic Prostate Cancer, Seminar, The University of Wisconsin Madison, United States Of America, April 2016

Nanodroplet Mediated Histotripsy (NMH) Cell Ablation on 3D Prostate Cancer Cell Models, Conference, The University of Michigan, United States Of America, October 2015

Nanomedicine Solutions on Focal and Metastatic Prostate Cancer Treatment, Seminar, Case Western Reserve University, United States Of America, March 2015

Scholarships

Rackham Summer Awards, University, 2015 - Continues

1416 Yurtdışı Doktora Bursu, University, 2008 - Continues

2228-A SON SINIF LİSANS ÖĞRENCİLERİ İÇİN LİSANSÜSTÜ (YÜKSEK LİSANS/DOKTORA) BURS PROGRAMI, University, 2007 - Continues

Awards

AYDIN Ö., Gold Medal from the invited talk of Macromolecular Science & Engineering, 39th Macromolecular Symposium, University of Michigan, October 2015

AYDIN Ö., 1st Place Poster Award in Engineering in Biological Systems, University of Michigan Engineering Graduate Symposium, University of Michigan, October 2015

AYDIN Ö., Eight Fellows Forum on Metabolic Bone Disease, Endocrine Fellows Foundation, September 2014

AYDIN Ö., Frank E. Filsko Poster Award, Macromolecular Science and Engineering 35th Annual Symposium, University of Michigan, October 2011

AYDIN Ö., 2209-A Üniversite Öğrencileri Araştırma Projeleri Destekleme Programı, TÜBİTAK, September 2006