Dr.Öğr.Üyesi ALTUĞ ÖZÇELİKKALE

Kişisel Bilgiler

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Uluslararası Araştırmacı ID'leri
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ORCID: 0000-0002-1783-4445
Publons / Web Of Science ResearcherID: ABA-2198-2020
ScopusID: 54972309800
Yoksis Araştırmacı ID: 317066

Eğitim Bilgileri

2010 - 2015	Doktora, Purdue University, Amerika Birleşik Devletleri
2008 - 2010	Yüksek Lisans, Orta Doğu Teknik Üniversitesi, Türkiye
2004 - 2008	Lisans, Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Türkiye

Yabancı Diller

İngilizce, C2 Ustalık

Yaptığı Tezler

2015	Freezing-Induced Deformation of Biomaterials in Cryomedicine, Purdue University, Doktora
2010	Development of an incompressible, laminar flow solver based on least squares spectral element method with P-type adaptive refinement capabilities, Orta Doğu Teknik Üniversitesi, Yüksek Lisans

Araştırma Alanları

Biyoenstrümantasyon ve MEMS, Biyoenstrümantasyon ve MEMS, Biyomedikal Görüntü İşleme, Biyomekanik, Yapay Organlar ve Biyomateryaller, Geleneksel olmayan imalat yöntemleri, Biyomekanik, Isı ve Madde Transferi

Akademik Unvanlar / Görevler

2021 - Devam Ediyor	Dr.Öğr.Üyesi, Orta Doğu Teknik Üniversitesi, Fen Bilimleri Enstitüsü, Biyomedikal Mühendisliği Anabilim Dalı
2020 - Devam Ediyor	Dr.Öğr.Üyesi, Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Makina Mühendisliği Bölümü

2017 - 2019	Araştırmacı, University of Maryland, College Park, Institute for Physical Science and Technology, Department of Physics
2016 - 2017	Araştırmacı, Johns Hopkins University, School of Engineering, Department of Mechanical Engineering
2015 - 2016	Araştırmacı, Purdue University, College of Engineering, School of Mechanical Engineering
2010 - 2015	Araştırma Görevlisi, Purdue University, College of Engineering, School of Mechanical Engineering

Akademik İdari Deneyim

2022 - Devam Ediyor	Publicity and Communication Committee Member, Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Makina Mühendisliği Bölümü
2022 - Devam Ediyor	Biomechanics Track Representative, Orta Doğu Teknik Üniversitesi, Fen Bilimleri Enstitüsü, Biyomedikal Mühendisliği Anabilim Dalı
2020 - Devam Ediyor	ODTÜ Uzaktan Eğitim Uygulama ve Araştırma Merkezi (ÜZEM) Danışma Kurulu Üyesi, Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Makina Mühendisliği Bölümü
2020 - Devam Ediyor	Distance Education Coordinator, Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Makina Mühendisliği Bölümü

SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler

I. **Predictive Design and Analysis of Drug Transport by MultiScale Computational Models Under Uncertainty**
AKALIN A. A., DEDEKARGINOĞLU B., Choi S. R., Han B., ÖZÇELİKKALE A.
Pharmaceutical Research, cilt.40, sa.2, ss.501-523, 2023 (SCI-Expanded)

II. **Migration and 3D Traction Force Measurements inside Compliant Microchannels**
Afthinos A., Bera K., Chen J., Ozcelikkale A., Amitrano A., Choudhury M. I., Huang R., Pachidis P., Mistriotis P., Chen Y., et al.
NANO LETTERS, cilt.22, sa.18, ss.7318-7327, 2022 (SCI-Expanded)

III. **Cytotoxic T Lymphocyte Activation Signals Modulate Cytoskeletal Dynamics and Mechanical Force Generation**
Pathni A., Ozcelikkale A., Rey-Suarez I., Li L., Davis S., Rogers N., Xiao Z., Upadhyaya A.
FRONTIERS IN IMMUNOLOGY, cilt.13, 2022 (SCI-Expanded)

IV. **An engineered pancreatic cancer model with intra-tumoral heterogeneity of driver mutations**
Moon H., Ozcelikkale A., Yang Y., Elzey B. D., Konieczny S. F., Han B.
LAB ON A CHIP, cilt.20, sa.20, ss.3720-3732, 2020 (SCI-Expanded)

V. **Differential response to doxorubicin in breast cancer subtypes simulated by a microfluidic tumor model**
Ozcelikkale A., Shin K., Noe-Kim V., Elzey B. D., Dong Z., Zhang J., Kim K., Kwon I. C., Park K., Han B.
JOURNAL OF CONTROLLED RELEASE, cilt.266, ss.129-139, 2017 (SCI-Expanded)

VI. **Effects of dynamic matrix remodelling on en masse migration of fibroblasts on collagen matrices**
Ozcelikkale A., Dutton J. C., Grinnell F., Han B.
JOURNAL OF THE ROYAL SOCIETY INTERFACE, cilt.14, sa.135, 2017 (SCI-Expanded)

VII. **Enzyme-Induced Matrix Softening Regulates Hepatocarcinoma Cancer Cell Phenotypes**
Liang Y., Clay N. E., Sullivan K. M., Leong J., Ozcelikkale A., Rich M. H., Lee M. K., Lai M., Jeon H., Han B., et al.
MACROMOLECULAR BIOSCIENCE, cilt.17, sa.9, 2017 (SCI-Expanded)

VIII. **In vitro microfluidic models of tumor microenvironment to screen transport of drugs and nanoparticles**
Ozcelikkale A., Moon H., Linnes M., Han B.
WILEY INTERDISCIPLINARY REVIEWS-NANOMEDICINE AND NANOBIOTECHNOLOGY, cilt.9, sa.5, 2017 (SCI-

Expanded)

IX. **Subcellular domain-dependent molecular hierarchy of SFK and FAK in mechanotransduction and cytokine signaling**
Wan Q., ThucNhi TruongVo T. T., Steele H. E., Ozcelikkale A., Han B., Wang Y., Oh J., Yokota H., Na S.
SCIENTIFIC REPORTS, cilt.7, 2017 (SCI-Expanded)

X. **Modulation of Matrix Softness and Interstitial Flow for 3D Cell Culture Using a Cell-Microenvironment-on-a-Chip System**
Clay N. E., Shin K., Ozcelikkale A., Lee M. K., Rich M. H., Kim D. H., Han B., Kong H.
ACS BIOMATERIALS SCIENCE & ENGINEERING, cilt.2, sa.11, ss.1968-1975, 2016 (SCI-Expanded)

XI. **Role of intracellular poroelasticity on freezing-induced deformation of cells in engineered tissues**
Ghosh S., Ozcelikkale A., Dutton J. C., Han B.
JOURNAL OF THE ROYAL SOCIETY INTERFACE, cilt.13, sa.123, 2016 (SCI-Expanded)

XII. **DNA Walker-Regulated Cancer Cell Growth Inhibition**
Li F., Cha T., Pan J., Ozcelikkale A., Han B., Choi J. H.
CHEMBIOCHEM, cilt.17, sa.12, ss.1138-1141, 2016 (SCI-Expanded)

XIII. **Thermal Destabilization of Collagen Matrix Hierarchical Structure by Freeze/Thaw**
Ozcelikkale A., Han B.
PLOS ONE, cilt.11, sa.1, 2016 (SCI-Expanded)

XIV. **Simulation of complex transport of nanoparticles around a tumor using tumor-microenvironment-on-chip**
Kwak B., Ozcelikkale A., Shin C. S., Park K., Han B.
JOURNAL OF CONTROLLED RELEASE, cilt.194, ss.157-167, 2014 (SCI-Expanded)

XV. **Role of Cells in Freezing-Induced Cell-Fluid-Matrix Interactions Within Engineered Tissues**
Seawright A., Ozcelikkale A., Dutton C., Han B.
JOURNAL OF BIOMECHANICAL ENGINEERING-TRANSACTIONS OF THE ASME, cilt.135, sa.9, 2013 (SCI-Expanded)

XVI. **Multifaceted Transport Characteristics of Nanomedicine: Needs for Characterization in Dynamic Environment**
Ozcelikkale A., Ghosh S., Han B.
MOLECULAR PHARMACEUTICS, cilt.10, sa.6, ss.2111-2126, 2013 (SCI-Expanded)

XVII. **Least-squares spectral element solution of incompressible Navier-Stokes equations with adaptive refinement**
Ozcelikkale A., SERT C.
JOURNAL OF COMPUTATIONAL PHYSICS, cilt.231, sa.9, ss.3755-3769, 2012 (SCI-Expanded)

Diğer Dergilerde Yayınlanan Makaleler

I. **Tumor-Microenvironment-on-Chip Platform for Assessing Drug Response in 3D Dynamic Culture**
Aydin H. B., Moon H., Han B., ÖZÇELİKKALE A., ACAR A.
Methods in molecular biology (Clifton, N.J.), cilt.2764, ss.265-278, 2024 (Scopus)

II. **Spatiotemporal characterization of extracellular matrix microstructures in engineered tissue: A whole-field spectroscopic imaging approach**
Xu Z., ÖZÇELİKKALE A., Kim Y. L., Han B.
Journal of Nanotechnology in Engineering and Medicine, cilt.4, sa.1, 2013 (Scopus)

Hakemli Kongre / Sempozyum Bildiri Kitaplarında Yer Alan Yayınlar

I. **Modeling and Characterization of Nanomedicine Transport within Tumor Microenvironment across Scales**
Akalin A. A., Özçelikkale A.

16th Nanoscience and Nanotechnology Conference, Ankara, Türkiye, 5 - 08 Eylül 2022, ss.338

II. **Rapid Low-Cost Prototyping of Organ-on-Chip Platforms by 3D-Printed Microfluidics**
Dedekargınoğlu B., Akalın A. A., Özçelikkale A.
3rd Annual European Organ-on-Chip Society Meeting, Uppsala, İsveç, 01 Temmuz 2021

III. **Regulation of Cytoskeletal Dynamics during T Cell Activation by Substrate Stiffness**
Özçelikkale A., Upadhyaya A.
American Physical Society March Meeting, California, Amerika Birleşik Devletleri, 07 Mart 2018, ss.1

IV. **NANOSCALE FLUID-STRUCTURE INTERACTIONS IN CYTOPLASM DURING FREEZING**
Ozcelikkale A., Han B.
ASME International Mechanical Engineering Congress and Exposition, Texas, Amerika Birleşik Devletleri, 9 - 15 Kasım 2012, ss.711-716

V. **EFFECTS OF FREEZING ON COLLAGEN NANOSCALE STRUCTURE IN ENGINEERED TISSUES**
Ozcelikkale A., Li Y., Xu X., Han B.
2nd ASME Global Congress on NanoEngineering for Medicine and Biology, Massachusetts, Amerika Birleşik Devletleri, 4 - 06 Şubat 2013, ss.29-30

VI. **FUNCTIONAL IMAGING OF MATRIX STRUCTURE OF CRYOPRESERVED ENGINEERED TISSUES USING BACK-DIRECTIONAL GATED MESOSCOPIC IMAGING**
Kim Y. L., Xu Z., Ozcelikkale A., Han B.
ASME Summer Bioengineering Conference (SBC), Fajardo, Porto Riko, 20 - 23 Haziran 2012, ss.259-260

VII. **ROLE OF CELLS IN FREEZING-INDUCED CELL-FLUID MATRIX INTERACTIONS WITHIN ENGINEERED TISSUES**
Seawright A., Ozcelikkale A., Dutton J. C., Han B.
ASME Summer Bioengineering Conference (SBC), Fajardo, Porto Riko, 20 - 23 Haziran 2012, ss.409-410

VIII. **h- and p-Adaptive Incompressible Flow Solutions on Cartesian Grids Using Least Squares Spectral Element Method**
Özçelikkale A., Sert C.
5th European Conf. on CFD (ECCOMAS CFD), Lisbon, Portekiz, 14 - 17 Haziran 2010, ss.1-16

Metrikler

Yayın: 27
Atıf (WoS): 347
Atıf (Scopus): 436
H-İndeks (WoS): 9
H-İndeks (Scopus): 11

Burslar

2020 - Devam Ediyor	2232 International Fellowship for Outstanding Researchers , TÜBİTAK
2010 - 2011	Ross Graduate Fellowship, Üniversite
2008 - 2010	National Scholarship for M.S. Students, TÜBİTAK