

# Prof. HALİL MURAT AYDIN

## Personal Information

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## Education Information

Doctorate, Hacettepe University, Fen Bilimleri Enstitüsü, Biyomühendislik, Turkey 2002 - 2008

Postgraduate, Hacettepe University, Fen Bilimleri Enstitüsü, Kimya Mühendisliği A.B.D., Turkey 2000 - 2002

Undergraduate, Ankara University, Mühendislik Fakültesi, Kimya Mühendisliği Bölümü, Turkey 1992 - 1999

## Foreign Languages

English, C1 Advanced

## Dissertations

Doctorate, Biyobozunur polimerik materyaller ve/veya bunların kalsiyum fosfat kompozitlerinin üretimi ve sert doku onarımında kullanımı, Hacettepe Üniversitesi, Fen Bilimleri Enstitüsü, Biyomühendislik (Dr), 2008

Postgraduate, Poli(L-laktat/?-kaprolakton) ve bunların HA/TCP ile kompozitlerinden süperkritik karbondioksit ortamında gözenekli yapıların hazırlanması, Hacettepe Üniversitesi, Mühendislik Fakültesi, Kimya Mühendisliği Bölümü, 2002

## Research Areas

Medicine, Health Sciences, Fundamental Medical Sciences, Chemistry, Organic Chemistry, Natural Sciences

## Academic Titles / Tasks

Professor, Hacettepe University, Fen Bilimleri Enstitüsü, Biyomühendislik A.B.D., 2019 - Continues

Associate Professor, Hacettepe University, Mühendislik Fakültesi, Çevre Mühendisliği Bölümü, 2014 - 2019

Research Assistant, Hacettepe University, Fen Bilimleri Enstitüsü, Kimya Mühendisliği A.B.D., 2002 - 2014

## Academic and Administrative Experience

Hacettepe Üniversitesi, Deney Hayvanları Uygulama Ve Araştırma Merkezi, 2015 - Continues

Head of Department, Hacettepe University, Fen Bilimleri Enstitüsü, Biyomühendislik A.B.D., 2021 - 2023

Hacettepe Üniversitesi, Fen Bilimleri Enstitüsü, Biyomühendislik (Dr), 2012 - 2014

## Advising Theses

- AYDIN H. M., Kornea doku mühendisliği için polimerik ve deselülerize edilmiş matrikslerin hazırlanması, Postgraduate, B.ASLAN(Student), 2016
- AYDIN H. M., Aort onarımı için deselülerize ve hibrit matrikslerin geliştirilmesi, Postgraduate, S.GÜLER(Student), 2016
- AYDIN H. M., Kolajen/beta-trikalsiyum fosfat bazlı sentetik kemik greftlerinin geliştirilmesi, Postgraduate, B.SARIKAYA(Student), 2015

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

- I. **Effects of liquid-to-solid ratio and gamma irradiation on the rheology and cytocompatibility of a beta-tricalcium phosphate-based injectable bone substitute**  
Ozdil D., GÜNAL KARATAŞ G., Tevlek A., AYDIN H. M.  
Journal of Biomaterials Science, Polymer Edition, 2024 (SCI-Expanded)
- II. **Comparison of garlic and onion extract-derived gold nanoparticles: Characterization and anticancer activity**  
Tan G., Tevlek A., AYDIN H. M.  
Journal of Drug Delivery Science and Technology, vol.84, 2023 (SCI-Expanded)
- III. **Effects of alginate-chitosan core-shell nanoparticles encapsulated in gelatin methacrylate hydrogel on chondrogenesis of mesenchymal stem cells**  
Aksoy Korpe D., Guler S., AYDIN H. M., DUMAN M.  
INTERNATIONAL JOURNAL OF POLYMERIC MATERIALS AND POLYMERIC BIOMATERIALS, vol.72, no.5, pp.355-365, 2023 (SCI-Expanded)
- IV. **Biofabrication of Poly(glycerol sebacate) Scaffolds Functionalized with a Decellularized Bone Extracellular Matrix for Bone Tissue Engineering**  
GÜLER S., Eichholz K., Chariyev-Prinz F., Pitacco P., AYDIN H. M., Kelly D. J., VARGEL İ.  
Bioengineering, vol.10, no.1, 2023 (SCI-Expanded)
- V. **Preparation of hybrid meniscal constructs using hydrogels and acellular matrices**  
Zihna G., Topuz B., Gunal G., AYDIN H. M.  
JOURNAL OF BIOMATERIALS SCIENCE-POLYMER EDITION, vol.34, no.5, pp.587-611, 2023 (SCI-Expanded)
- VI. **The Co-Use of Stromal Vascular Fraction and Bone Marrow Concentrate for Tendon Healing**  
Aydın E. Y., Aşık M., AYDIN H. M., ÇAY N., Gümüşkaya B., Çağlayan A., Torabi A., Yüksel S., Veizi E., Bozkurt M.  
Current stem cell research & therapy, vol.18, no.8, pp.1150-1159, 2023 (SCI-Expanded)
- VII. **Synthesis of hybrid myocardium constructs and in vitro characterization under mechanical stimulation**  
GÜNAL KARATAŞ G., Zihna G., Akel H., Okan M., KARAASLAN İ. Ç., AYDIN H. M.  
Materials Today Communications, vol.33, 2022 (SCI-Expanded)
- VIII. **Surface channel patterned and endothelialized poly(glycerol sebacate) based elastomers**  
Tevlek A., Topuz B., ÇETİN E., AYDIN H. M.  
JOURNAL OF BIOMATERIALS APPLICATIONS, vol.37, no.2, pp.287-302, 2022 (SCI-Expanded)
- IX. **Preparation of decellularized optic nerve grafts**  
Topuz B., AYDIN H. M.  
ARTIFICIAL ORGANS, vol.46, no.4, pp.618-632, 2022 (SCI-Expanded)
- X. **In vitro selection of DNA aptamers against human osteosarcoma**  
Tsogtbaatar K., Sousa D. A., Ferreira D., Tevlek A., Aydın H. M., Çelik E., Rodrigues L.  
INVESTIGATIONAL NEW DRUGS, vol.40, no.1, pp.172-181, 2022 (SCI-Expanded)
- XI. **Fabrication of a multi-layered decellularized amniotic membranes as tissue engineering constructs**  
Yüksel S., Asik M. D., AYDIN H. M., Tonuk E., Aydın E. Y., Bozkurt M.  
TISSUE & CELL, vol.74, 2022 (SCI-Expanded)
- XII. **Fabrication and characterization of carbon aerogel/poly(glycerol-sebacate) patches for cardiac tissue engineering**

- Atya A. M. N., Tevlek A., Almemar M., GÖKCEN D., AYDIN H. M.  
BIOMEDICAL MATERIALS, vol.16, no.6, 2021 (SCI-Expanded)
- XIII. **Multi-layered in vitro 3D-bone model via combination of osteogenic cell sheets with electrospun membrane interlayer**  
Tevlek A., AYDIN H. M.  
JOURNAL OF BIOMATERIALS APPLICATIONS, vol.36, no.5, pp.818-833, 2021 (SCI-Expanded)
- XIV. **Microwave-Assisted Synthesis of Stretchable and Transparent Poly(Ethylene glycol-Sebacate) Elastomers with Autonomous Self-Healing and Capacitive Properties**  
Gunal G., Okan M., GÖKCEN D., ÇAYKARA T., AYDIN H. M.  
SOFT ROBOTICS, vol.8, pp.262-272, 2021 (SCI-Expanded)
- XV. **Study on Cost-Efficient Carbon Aerogel to Remove Antibiotics from Water Resources**  
AYLAZ G., Okan M., DUMAN M., AYDIN H. M.  
ACS OMEGA, vol.5, no.27, pp.16635-16644, 2020 (SCI-Expanded)
- XVI. **Effects of ceramic particle size on cell attachment and viability in polyurethane-based bone adhesive composites**  
Erken M., Tevlek A., Hosseinian P., Topuz B., AYDIN H. M.  
JOURNAL OF COMPOSITE MATERIALS, vol.54, no.15, pp.2013-2022, 2020 (SCI-Expanded)
- XVII. **Synthesis of temperature and light sensitive mixed polymer brushes via combination of surface-initiated PET-ATRP and interface-mediated RAFT polymerization for cell sheet application**  
Evcı M., Tevlek A., AYDIN H. M., ÇAYKARA T.  
APPLIED SURFACE SCIENCE, vol.511, 2020 (SCI-Expanded)
- XVIII. **Stretchable poly(glycerol-sebacate)/beta-tricalcium phosphate composites with shape recovery feature by extrusion**  
Tevlek A., Agacık D. T., AYDIN H. M.  
JOURNAL OF APPLIED POLYMER SCIENCE, vol.137, no.20, 2020 (SCI-Expanded)
- XIX. **Synthesis of Conductive Carbon Aerogels Decorated with beta-Tricalcium Phosphate Nanocrystallites**  
Tevlek A., Atya A. M. N., Almemar M., DUMAN M., GÖKCEN D., Ganin A. Y., Yiu H. H. P., AYDIN H. M.  
SCIENTIFIC REPORTS, vol.10, no.1, 2020 (SCI-Expanded)
- XX. **Use of cyclic strain bioreactor for the upregulation of key tenocyte gene expression on Poly(glycerol-sebacate) (PGS) sheets**  
Deniz P., GÜLER S., Celik E., Hosseinian P., AYDIN H. M.  
MATERIALS SCIENCE & ENGINEERING C-MATERIALS FOR BIOLOGICAL APPLICATIONS, vol.106, 2020 (SCI-Expanded)
- XXI. **Hybrid Cornea: Cell Laden Hydrogel Incorporated Decellularized Matrix**  
Uyanıklar M., Gunal G., Tevlek A., Hosseinian P., AYDIN H. M.  
ACS BIOMATERIALS SCIENCE & ENGINEERING, vol.6, no.1, pp.122-133, 2020 (SCI-Expanded)
- XXII. **Effects of severe plastic deformation on pre-osteoblast cell behavior and proliferation on AISI 304 and Ti-6Al-4V metallic substrates**  
Tevlek A., AYDIN H. M., Maleki E., VAROL R., ÜNAL O.  
SURFACE & COATINGS TECHNOLOGY, vol.366, pp.204-213, 2019 (SCI-Expanded)
- XXIII. **Current approaches to waste polymer utilization and minimization: a review**  
Okan M., AYDIN H. M., BARSBAY M.  
JOURNAL OF CHEMICAL TECHNOLOGY AND BIOTECHNOLOGY, vol.94, no.1, pp.8-21, 2019 (SCI-Expanded)
- XXIV. **Evaluation of collagen foam, poly(L-lactic acid) nanofiber mesh, and decellularized matrices for corneal regeneration**  
Aslan B., GÜLER S., Tevlek A., AYDIN H. M.  
JOURNAL OF BIOMEDICAL MATERIALS RESEARCH PART B-APPLIED BIOMATERIALS, vol.106, no.6, pp.2157-2168, 2018 (SCI-Expanded)
- XXV. **Improvement of Decellularization Efficiency of Porcine Aorta Using Dimethyl Sulfoxide as a Penetration Enhancer**  
GÜLER S., Aydin H. M., Lu L., Yang Y.

- ARTIFICIAL ORGANS, vol.42, no.2, pp.219-230, 2018 (SCI-Expanded)
- XXVI. **Preparation of MC3T3-E1 cell sheets through short-term osteogenic medium application**  
Tevlek A., ODABAŞ S., ÇELİK E., AYDIN H. M.  
ARTIFICIAL CELLS NANOMEDICINE AND BIOTECHNOLOGY, vol.46, pp.1145-1153, 2018 (SCI-Expanded)
- XXVII. **Polyurethane-Ceramic matrices as orbital implants**  
Sahan S., Hosseinian P., Ozdil D., TÜRK M., Aydın H. M.  
INTERNATIONAL JOURNAL OF POLYMERIC MATERIALS AND POLYMERIC BIOMATERIALS, vol.67, no.8, pp.487-493, 2018 (SCI-Expanded)
- XXVIII. **Supercritical Carbon Dioxide-Assisted Decellularization of Aorta and Cornea**  
GÜLER S., Aslan B., Hosseinian P., AYDIN H. M.  
TISSUE ENGINEERING PART C-METHODS, vol.23, no.9, pp.540-547, 2017 (SCI-Expanded)
- XXIX. **Aminated poly(vinyl chloride) solid state adsorbents with hydrophobic function for post-combustion CO<sub>2</sub> capture**  
Sneddon G., McGlynn J. C., Neumann M. S., Aydın H. M., Yiu H. H. P., Ganin A. Y.  
JOURNAL OF MATERIALS CHEMISTRY A, vol.5, no.23, pp.11864-11872, 2017 (SCI-Expanded)
- XXX. **Polyurethane/Tricalcium Phosphate Bone Adhesives and Substitutes for Load Bearing Applications**  
Sahan S., Hosseinian P., Ozdil D., TÜRK M., AYDIN H. M.  
JOURNAL OF BIOMATERIALS AND TISSUE ENGINEERING, vol.7, no.5, pp.401-407, 2017 (SCI-Expanded)
- XXXI. **Tri-layered composite plug for the repair of osteochondral defects: in vivo study in sheep**  
YÜCEKUL A., Ozdil D., Kutlu N. H., ERDEMLİ E., AYDIN H. M., DORAL M. N.  
JOURNAL OF TISSUE ENGINEERING, vol.8, 2017 (SCI-Expanded)
- XXXII. **Bi-layered constructs of poly(glycerol-sebacate)-beta-tricalcium phosphate for bone-soft tissue interface applications**  
Tevlek A., Hosseinian P., Oğutcu C., TÜRK M., AYDIN H. M.  
MATERIALS SCIENCE & ENGINEERING C-MATERIALS FOR BIOLOGICAL APPLICATIONS, vol.72, pp.316-324, 2017 (SCI-Expanded)
- XXXIII. **Stem Cell-based Medicinal Products: Regulatory Perspectives**  
Ozdil D., AYDIN H. M.  
ADVANCED SURFACES FOR STEM CELL RESEARCH, pp.323-342, 2017 (SCI-Expanded)
- XXXIV. **Hybrid Aorta Constructs via In Situ Crosslinking of Poly(glycerol-sebacate) Elastomer Within a Decellularized Matrix ocr v26**  
GÜLER S., HOSSEINIAN P., AYDIN H. M.  
TISSUE ENGINEERING PART C-METHODS, vol.23, no.1, pp.21-29, 2017 (SCI-Expanded)
- XXXV. **Poly(L-Lactide)/Poly(epsilon-Caprolactone) and Collagen/beta-Tricalcium Phosphate Scaffolds for the Treatment of Critical-Sized Rat Alveolar Defects: A Microtomographic, Molecular-Biological, and Histological Study**  
Ekin O., ÇALIŞ M., ALIYEV A., Yar A. S., KORKUSUZ P., BİLGİÇ E., AYDIN H. M., ÇELİK H. H., OZGUR F., VARGEL İ.  
CLEFT PALATE-CRANIOFACIAL JOURNAL, vol.53, no.4, pp.453-463, 2016 (SCI-Expanded)
- XXXVI. **Fabrication of Plasmonic Nanorod-Embedded Dipeptide Microspheres via the Freeze-Quenching Method for Near-Infrared Laser-Triggered Drug-Delivery Applications**  
Erdogan H., Yilmaz M., Babur E., DUMAN M., AYDIN H. M., Demirel G.  
BIOMACROMOLECULES, vol.17, no.5, pp.1788-1794, 2016 (SCI-Expanded)
- XXXVII. **Microwave-assisted green approach for graft copolymerization of l-lactic acid onto starch**  
Salimi K., TOPUZOĞULLARI M., DİNÇER İŞOĞLU S., AYDIN H. M., Piskin E.  
JOURNAL OF APPLIED POLYMER SCIENCE, vol.133, no.6, 2016 (SCI-Expanded)
- XXXVIII. **Vertical Bone Augmentation Using Bone Marrow-Derived Stem Cells: An In Vivo Study in the Rabbit Calvaria**  
NAMLI H., Erdogan O., GÖNLÜŞEN G., Kahraman O. E., AYDIN H. M., KARABAĞ S., TATLI U.  
IMPLANT DENTISTRY, vol.25, no.1, pp.54-62, 2016 (SCI-Expanded)
- XXXIX. **Synthesis and characterization of poly(glycerol-co-sebacate-co-epsilon-caprolactone) elastomers**  
Aydın H. M., Salimi K., Yilmaz M., Turk M., Rzaev Z. M. O., Piskin E.

- JOURNAL OF TISSUE ENGINEERING AND REGENERATIVE MEDICINE, vol.10, no.1, 2016 (SCI-Expanded)
- XL. **Collagen/Beta-Tricalcium Phosphate Based Synthetic Bone Grafts via Dehydrothermal Processing**  
SARIKAYA B., Aydin H. M.  
BIOMED RESEARCH INTERNATIONAL, 2015 (SCI-Expanded)
- XLI. **Polymers for medical and tissue engineering applications**  
Ozdil D., AYDIN H. M.  
JOURNAL OF CHEMICAL TECHNOLOGY AND BIOTECHNOLOGY, vol.89, no.12, pp.1793-1810, 2014 (SCI-Expanded)
- XLII. **A facile in vitro model to study rapid mineralization in bone tissues**  
Deegan A. J., Aydin H. M., Hu B., Konduru S., Kuiper J. H., Yang Y.  
BIOMEDICAL ENGINEERING ONLINE, vol.13, 2014 (SCI-Expanded)
- XLIII. **Microwave-assisted rapid synthesis of poly(glycerol-sebacate) elastomers**  
Aydin H. M., Salimi K., Rzayev Z. M. O., Piskin E.  
BIOMATERIALS SCIENCE, vol.1, no.5, pp.503-509, 2013 (SCI-Expanded)
- XLIV. **A Three-Layered Osteochondral Plug: Structural, Mechanical, and in vitro Biocompatibility Analysis**  
Aydin H. M.  
ADVANCED ENGINEERING MATERIALS, vol.13, no.12, 2011 (SCI-Expanded)
- XLV. **A 6-month in vivo study of polymer/mesenchymal stem cell constructs for cranial defects**  
AYDIN H. M., KORKUSUZ P., Vargel I., Kilic E., Guzel E., Cavusoglu T., Ucgan D., Piskin E.  
JOURNAL OF BIOACTIVE AND COMPATIBLE POLYMERS, vol.26, no.2, pp.207-221, 2011 (SCI-Expanded)
- XLVI. **Study of tissue engineered bone nodules by Fourier transform infrared spectroscopy**  
Aydin H. M., Hu B., Suso J. S., El Haj A., Yang Y.  
ANALYST, vol.136, no.4, pp.775-780, 2011 (SCI-Expanded)
- XLVII. **Interaction of Osteoblasts with Macroporous Scaffolds Made of PLLA/PCL Blends Modified with Collagen and Hydroxyapatite**  
AYDIN H. M., Yang Y., Kohler T., El Haj A., Mueller R., Piskin E.  
ADVANCED ENGINEERING MATERIALS, vol.11, no.8, 2009 (SCI-Expanded)
- XLVIII. **Improving pore interconnectivity in polymeric scaffolds for tissue engineering**  
Aydin H. M., El Haj A. J., Piskin E., Yang Y.  
JOURNAL OF TISSUE ENGINEERING AND REGENERATIVE MEDICINE, vol.3, no.6, pp.470-476, 2009 (SCI-Expanded)
- XLIX. **Cathepsin K/TRAP: Can they be used to induce osteogenesis?**  
Aydin H. M., Piskin E.  
MEDICAL HYPOTHESES, vol.72, no.4, pp.464-465, 2009 (SCI-Expanded)
- L. **Attachment and growth of fibroblasts on poly(L-lactide/epsilon-caprolactone) scaffolds prepared in supercritical CO<sub>2</sub> and modified by polyethylene imine grafting with ethylene diamine-plasma in a glow-discharge apparatus**  
Aydin H. M., Turk M., Calimli A., Piskin E.  
INTERNATIONAL JOURNAL OF ARTIFICIAL ORGANS, vol.29, no.9, pp.873-880, 2006 (SCI-Expanded)
- LI. **Microporous scaffolds from poly(lactide-co-epsilon-caprolactone) composites with hydroxyapatite and tricalcium phosphates using supercritical CO<sub>2</sub> for bone tissue engineering**  
Aydin H. M., Piskin E., Calimli A.  
JOURNAL OF BIOACTIVE AND COMPATIBLE POLYMERS, vol.19, no.5, pp.383-394, 2004 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Extracellular Matrix-Based Conductive Composites for Myocardial Tissue Regeneration**  
GÜNAL KARATAŞ G., GÖKCEN D., AYDIN H. M.  
ACS Applied Bio Materials, vol.6, no.10, pp.4100-4104, 2023 (ESCI)
- II. **Development of Antithrombogenic ECM-Based Nanocomposite Heart Valve Leaflets**  
Seyrek A., Gunal G., AYDIN H. M.  
ACS APPLIED BIO MATERIALS, vol.5, pp.3883-3895, 2022 (ESCI)

- III. **Rapid production of highly interconnected porous scaffolds by spheroidized sugar particles for tissue engineering**  
AYDIN H. M., YANG Y.  
Journal of Hacettepe Biology and Chemistry, 2011 (Peer-Reviewed Journal)
- IV. **Assesment of a new biomimetic scaffold and its effects on bone formation by OCT**  
YANG Y., AYDIN H. M., PİŞKİN E., EL HAJ A.  
Proceedings of SPIE (Society of Photo-optical Instrumentation Engineers), 2009 (Scopus)

## **Books & Book Chapters**

- I. **Use of supercritical CO<sub>2</sub> in soft tissue decellularization**  
Topuz B., Günel G., GÜLER S., AYDIN H. M.  
in: Methods in Cell Biology, David Caballero, Subhas C. Kundu, Rui L. Reis, Editor, Academic Press Elsevier, Cambridge, pp.49-79, 2020
- II. **Stem Cell-based Medicinal Products: Regulatory Perspectives**  
özdil d., AYDIN H. M.  
in: Advanced Surfaces for Stem Cell Research, Ashutosh Tiwari, Bora Garipcan, Lokman Uzun, Editor, Wiley-Scrivener, pp.321-340, 2016

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

- I. **COMBINED EFFECT OF POLY (GLY CEROL-SEBACAT) / TRICALCIUM PHOSPHATE SCAFFOLDNON BONE HEALING IN RAT ALVEOLAR DEFECT MODEL**  
AKYÜZ T., ÇAM S. B., KORKUSUZ P., AYDIN H. M., OCAK M., KÜÇÜKGÜVEN A., VARGEL İ.  
EORS 2020, Turkey, 17 September 2020
- II. **Osteokondral Defektlerin Tamirinde Üç Katmanlı Kompozit Tapa: in vivo Koyun Çalışması**  
Yücekul A., ERDEMLİ E., AYDIN H. M., DORAL M. N.  
27. Ulusal Türk Ortopedi ve Travmatoloji Kongresi, Antalya, Turkey, 24 - 29 October 2017, vol.51, pp.34
- III. **Comparison of Biopolymeric, Synthetic and Natural Derived Corneal Constructs**  
Aslan B., GÜLER S., Tevlek A., AYDIN H. M.  
28th European Society for Biomaterials Congress, 4 - 08 September 2017
- IV. **Poly(glycerol-sebacate)/b-Tricalcium Phosphate (PGS/TCP) Bi-Layered Composites for Guided Bone Regeneration**  
Atakan T., Hosseinian P., Öğütçü C., AYDIN H. M.  
28th European Society for Biomaterials Congress, 4 - 08 September 2017
- V. **Enhancing Mechanical Properties of Decellularized Aortae via in situ Polymerization**  
GÜLER S., hosseinian p., AYDIN H. M.  
8th National Biomechanics congress with International Participation, 19 - 23 October 2016
- VI. **Preparation of Poly glycerol sebacate PGS Decellularized Aorta Composites**  
GÜLER S., pezhman h., AYDIN H. M.  
XXV International Materials Research Congress, 16 - 20 August 2016
- VII. **Synthesis of Gelatine Methacrylate Hydrogels as Cell Carriers**  
körpe d., hosseinian p., GÜLER S., DUMAN M., AYDIN H. M.  
9. Meeting of Scandinavian Society of Biomaterials, 30 May - 04 June 2016
- VIII. **Collagen b TCP Scaffold for Bone Regeneration in Crtical Size Bone Defects**  
SARIKAYA B., AYDIN H. M., Hosseinian P., Aslan B., BİLGİÇ E., KORKUSUZ P., VARGEL İ.  
21th International Biomedical Science and Technology Symposium, 22 - 24 October 2016
- IX. **Improvement of Decellularization Efficiency of Porcine Aorta by Using Dimethyl Sulfoxide as Penetration Enhancer**

Selcen G., Lyu L., AYDIN H. M., Ying Y.

4th TERMIS WORLD CONGRESS, 8 - 11 September 2015

- X. **Corneal Collagen Matrix Coated with Poly p xylylene PPX for Keratocyte Orientation**  
Aslan B., Selcen G., AYDIN H. M.  
4th TERMIS WORLD CONGRESS, 8 - 11 September 2015
- XI. **Effects of Dehydrothermal Treatment of Collagen beta TCP Scaffold on Bone Regeneration in Critical Size Bone Defects**  
SARIKAYA B., Pezhman H., Aslan B., Elif B., Utku O., KORKUSUZ P., VARGEL İ., AYDIN H. M.  
4th TERMIS WORLD CONGRESS, 8 - 11 September 2015
- XII. **Polyurethane Ceramic Matrices as Orbital Implants**  
AYDIN H. M., Sahan S., Hosseinian P., Deniz O., Turk M.  
27th European Conference on Biomaterials, 30 August - 03 September 2015
- XIII. **PU TCP Bone Adhesives and Substitutes for Load Bearing Applications**  
AYDIN H. M., Sahan S., Pezhman H., Ozdil D., Turk M.  
AMWC 2015, 23 - 25 August 2015
- XIV. **Supercritical Carbon Dioxide scCO<sub>2</sub> Assisted Decellularization of Aorta**  
GÜLER S., AYDIN H. M.  
26th European Conference on Biomaterials, 31 August - 03 September 2014
- XV. **R D Strategies in Biomaterial Production**  
ÖĞÜTÇÜ C., AYDIN H. M.  
19th International Biomedical Science and Technology Symposium, 12 - 15 November 2013
- XVI. **Regeneration of Osteochondral Defects Using a Multilayered Scaffold A Novel Design in vitro Performance and in vivo Healing in Ovine Model**  
AYDIN H. M.  
European Conference on Biomaterials, 8 - 12 September 2013
- XVII. **Optimization Process of Alginate Coated Chitosan Nanoparticles**  
KORPE D. A., AYDIN H. M.  
TERMIS EU 2013 Tissue Engineering and Regenerative Medicine, 17 - 20 June 2013
- XVIII. **Mesenchymal Stem Cells and Tissue Engineering Scaffolds in Cranial Bone Defects**  
KORKUSUZ P., VARGEL İ., AYDIN H. M., BÖLGEN N., EĞRİ S., İŞOĞLU İ. A., UÇKAN D., ÇAVUŞOĞLU T., GÜZEL E., KILIÇ E., et al.  
16th International Biomedical Science and Technology Symposium, 29 September - 02 October 2010
- XIX. **Investigation of Polymer Mesenchymal Stem Cell Constructs for Cranial Defects**  
AYDIN H. M., KORKUSUZ P., VARGEL İ., KILIÇ E., GÜZEL E., ÇAVUŞOĞLU T., UÇKAN D., PİŞKİN E.  
16th International Biomedical Science and Technology Symposium, 29 September - 02 October 2010
- XX. **Enhancement of Calcium Nodule Production by Osteoblasts**  
AYDIN H. M., HU B., EL HAJ A. J., YANG Y.  
23rd European Conference on Biomaterials, 11 - 15 September 2010
- XXI. **An Ultrastructural and in vitro Analyses of a Three layered Osteochondral Plug**  
AYDIN H. M., YANG Y.  
European Conference on Biomaterials, 05 September 2011
- XXII. **First Orthobiologics Product CE Class III in Turkey Suprabone**  
AYDIN H. M.  
Marie Curie Conference ESOF 2010, 1 - 02 July 2010
- XXIII. **FTIR Study of Tissue Engineered Bone Nodules**  
AYDIN H. M., SULE SUSO J., HU B., EL HAJ A. J., YANG Y.  
SPEC 2010 Shedding Light on Disease: Optical Diagnosis for the New Millennium, 26 June - 01 July 2010
- XXIV. **Investigation of Tissue Formation within 3 Phasic Scaffolds in vitro**  
AYDIN H. M., EL HAJ A. J., YANG Y.  
TERMIS EU 2010 Tissue Engineering and Regenerative Medicine Galway, 13 - 17 June 2010
- XXV. **Investigation of Tissue Engineering Scaffolds Stem Cells in Cranial Defects**

- AYDIN H. M., GÜZEL E., KORKUSUZ P., UCGAN D., KILIÇ E., VARGEL İ., ÇAVUŞOĞLU T., PİŞKİN E.  
TERMIS EU 2010 Tissue Engineering and Regenerative Medicine Galway, 13 - 17 June 2010
- XXVI. **A morphological Study of Cell Aggregations on Mineralisation**  
AYDIN H. M., GÜZEL E., KESRİ S., EL HAJ A. J., YANG Y.  
8th International Conference on Cell & Stem Cell Engineering, 11 - 12 June 2010
- XXVII. **Polimer Mezenkimal Kök Hücre Kompozitlerinin Kranial Defektlerde Uygulanması Altı Aylık in vivo İzlem**  
AYDIN H. M., KORKUSUZ P., GÜZEL E., UÇKAN D., KILIÇ E., VARGEL İ., ÇAVUŞOĞLU T., PİŞKİN E.  
19. Ulusal Elektron Mikroskopi Kongresi, Turkey, 22 - 25 June 2009
- XXVIII. **Filling Cranial Defects in Rats 6 Months Animal Study**  
AYDIN H. M., VARGEL İ., ÇAVUŞOĞLU T., KORKUSUZ P., GÜZEL E., PİŞKİN E.  
TERMIS EU 2008 Porto Meeting, 22 - 26 June 2008
- XXIX. **Novel Technique for HA Particle Coating Within 3D Polymeric Structures**  
AYDIN H. M., YANG Y., KOHLER T., PİŞKİN E.  
Biomed 2008 14th Biomedical Science and Technology Symposium, 14 - 18 May 2008
- XXX. **Novel Scaffolds for Tissue Engineering**  
PİŞKİN E., BÖLGEN N., EĞRİ S., AYDIN H. M., İŞOĞLU İ. A.  
Trento Innovation Conferences in Materials Engineering: 1st Meeting Advances in Polymers, Composites and Biomaterials, 16 - 19 December 2007
- XXXI. **Biodegradable Polymers and Novel Scaffolds for Tissue Engineering Experience of Hacettepe University Group**  
PİŞKİN E., BÖLGEN N., VARGEL İ., KORKUSUZ P., AYDIN H. M., EĞRİ S., TUZLAKOĞLU K., İŞOĞLU İ. A., KAİTİAN X., KESENCİ K., et al.  
Plastic Reconstructive and Aesthetic Surgery Stem Cell and Tissue Engineering Symposium, 10 - 12 May 2007
- XXXII. **Optimizing Degradable Scaffolds for Cranium Tissue Repair**  
AYDIN H. M., YANG Y., A J E. H., PİŞKİN E.  
20th European Conference on Biomaterials, 27 September - 01 October 2006
- XXXIII. **Biodegradable Biomaterials for Soft and Hard Tissue Repair**  
PİŞKİN E., BÖLGEN N., EĞRİ S., AYDIN H. M.  
World Congress on Medical Physics and Biomedical Engineering, 27 August - 01 September 2006
- XXXIV. **Noel Methods for Preparation of Biodegradable Scaffolds**  
PİŞKİN E., BÖLGEN N., AYDIN H. M.  
XXIII SICOT/SIROT Triennial World Congress, 2 - 09 September 2005
- XXXV. **Attachment and Growth of Fibroblasts on Glow Discharge Treated Poly L Lactide e Caprolactone Scaffolds Prepared in Supercritical CO<sub>2</sub>**  
AYDIN H. M., TÜRK M., ÇALIMLI A., PİŞKİN E.  
The International Journal of Artificial Organs Engineering with Membranes: Medical and Biological Applications 4th Conference, 15 - 18 May 2005
- XXXVI. **Attachement and Growth of Fibroblasts on Glow Discharge Treated Poly L lactide e Caprolactone Scaffolds Prepared in Supercritical CO<sub>2</sub>**  
AYDIN H. M., TÜRK M., ÇALIMLI A., PİŞKİN E.  
Biomed 2004 11. International Biomedical Science and Technology Days, 6 - 10 September 2004
- XXXVII. **Poli L laktat e kaprolakton ve Bunların HA TCP ile Kompozitlerinden Süperkritik Karbondioksit Ortamında Gözenekli Yapıların Hazırlanması**  
AYDIN H. M.  
POLSEM 2004 Polimer İşleme ve Geri Kazanımı Sempozyumu, Turkey, 13 - 19 April 2004
- XXXVIII. **Preparation of Microporous Scaffolds From poly LLA CL and Their HA and TCP Blends in Supercritical Carbon Dioxide Media**  
AYDIN H. M., ÇALIMLI A., PİŞKİN E.  
30th Annual Congress of the European Society for Artificial Organs, 3 - 06 September 2003



## Supported Projects

- AYDIN H. M., Zihna G., Project Supported by Higher Education Institutions, MENİSKÜS DOKU MÜHENDİSLİĞİ İÇİN HİBRİT DOKU İSKELELERİN GELİŞTİRİLMESİ, 2020 - 2022
- KARAASLAN İ. Ç., AYDIN H. M., Günal Karataş G., TUNCER S., Project Supported by Higher Education Institutions, Havayolu Modellemesi Amaçlı Tasarlanan Mühendislik Ürünü 3B Hücre Kültür Sistemlerinin Geliştirilmesi, 2019 - 2022
- AYDIN H. M., Seyrek A., Project Supported by Higher Education Institutions, ANTİTROMBOJENİK NANOKOMPOZİT KALP KAPAKÇIK MALZEMELERİNİN GELİŞTİRİLMESİ, 2020 - 2021
- AYDIN H. M., Topuz B., Project Supported by Higher Education Institutions, SİNİR DOKU MÜHENDİSLİĞİ İÇİN İLETKEN POLİ(GLİSEROL-SEBAKAT) KOMPOZİTLERİNİN GELİŞTİRİLMESİ, 2018 - 2021
- AYDIN H. M., Topuz B., Project Supported by Higher Education Institutions, Optik Sinir Greftlerinin Hazırlanması: Deselülerizasyon Yönteminin Optimizasyonu, 2019 - 2020
- VARGEL İ., Akyüz T., KÜÇÜKGÜVEN A., AYDIN H. M., Project Supported by Higher Education Institutions, Sıçanda alveolar defekt modelinde çift katmanlı poligliserolsebakatTCP biyomalzemesinin kemik iyileşmesindeki etkisinin araştırılması, 2019 - 2020
- AYDIN H. M., Kararmaz Ö. S., Project Supported by Higher Education Institutions, KOMPOZİT İNTERFERANS VİDALARIN GELİŞTİRİLMESİ, 2018 - 2020
- AYDIN H. M., Tevlek A., Project Supported by Higher Education Institutions, HÜCRE TABAKA MÜHENDİSLİĞİ YAKLAŞIMINDA HÜCRE TABAKASI KALINLIĞININ ARTTIRILMASI VE DOKU MÜHENDİSLİĞİ YAPILARINDA VASKÜLERİZASYON VE NEKROZ PROBLEMİNİN ÇÖZÜMÜNE YÖNELİK STRATEJİK YAKLAŞIMLARIN GELİŞTİRİLMESİ, 2018 - 2019
- AYDIN H. M., Günal Karataş G., Project Supported by Higher Education Institutions, Aselüler Miyokard Poli(gliserol sebakat) Hibrit Kardiyak Yamaların Üretimi ve Karakterizasyonu, 2018 - 2019
- AYDIN H. M., Türkel D., Tevlek A., DUMAN M., Project Supported by Higher Education Institutions, Biyobozunur Akıllı Kemik Onarım Plakalarının Üretimi, 2017 - 2019
- AYDIN H. M., UYANIKLAR M., GÜLER S., Project Supported by Higher Education Institutions, Kornea Onarımı İçin Hibrit Materyal, 2018 - 2018
- VARGEL İ., GÜLER S., AYDIN H. M., TEVLEK A., ASLAN B., Project Supported by Higher Education Institutions, Biyopolimerik Sentetik ve Doğal Kaynaklı Korneal Yapıların Karşılaştırılması, 2017 - 2018
- AYDIN H. M., Atya A., Project Supported by Higher Education Institutions, Atık Kağıt Türevli Karbon Aerojel-Elastomer Matrislerinin Hazırlanması, 2016 - 2017
- AYDIN H. M., Project Supported by Other Private Institutions, Artroskopik Olarak Uygulanabilecek Sert Doku Onarım Vidalarının Üretimi, 2015 - 2017
- AYDIN H. M., Project Supported by Higher Education Institutions, Keele Üniversitesi İngiltere ve HariatWatt Üniversitesi İskoçya İkili İlişkiler Projesi Toplantıları 24-30 Ocak 2016, 2016 - 2016
- AYDIN H. M., GÜLER S., Project Supported by Higher Education Institutions, Poli(gliserol-sebakat)-Aselüler Aort Kompozit Damar Greftlerinin Üretimi, 2015 - 2016
- AYDIN H. M., Project Supported by Higher Education Institutions, Materials Research Society 2015 MRS Fall Meeting Malzeme Araştırma Cemiyeti 2015 MRS Sonbahar Toplantısı Katılımı, 2015 - 2016
- AYDIN H. M., SARIKAYA B., Project Supported by Higher Education Institutions, KOLAJEN/BETA-TRİKALSİYUM FOSFAT BAZLI SENTETİK KEMİK GREFTLERİNİN GELİŞTİRİLMESİ, 2015 - 2015
- AYDIN H. M., Project Supported by Higher Education Institutions, Yük Taşıyan Bölgeler için Poliüretan/Trikalsiyum Fosfat Kemik Yapıştırıcı ve Greftleri, 2015 - 2015
- AYDIN H. M., Tevlek A., Project Supported by Higher Education Institutions, Desenli Yüzeyler ile Yönlenmiş Hücre Tabakalarının Üretilmesi, 2015 - 2015
- AYDIN H. M., Project Supported by Higher Education Institutions, Kornea Doku Mühendisliği için Süperkritik Karbondioksit ile Deselülerize Matrislerin Hazırlanması, 2014 - 2015

## Metrics

Publication: 95

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## **Non Academic Experience**

BMT Calsis Saęlık Teknolojileri A.Ş.

Keele University, Medical School - Institute for Science and Technology in Medicine

Keele University, Medical School - Institute for Science and Technology in Medicine