

Sevilay Burcu ŞAHİN

İstanbul, Turkey

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EDUCATION

Ph.D.	Sabancı University, Turkey Molecular Biology, Genetics, and Bioengineering Program Thesis: <i>Development of Corneal Tissue Substitutes</i> Supervisor: Assist. Prof. Sibel ÇETİNEL	2024
M.Sc.	İstanbul Technical University, Turkey Molecular Biology, Genetics, and Bioengineering Program Thesis: <i>Fabrication of Sensor with Interdigitated Electrodes for Microbial Contamination Detection</i> Supervisor: Prof. Dr. Nevin Gül KARAGÜLER	2018
B.Sc.	İstanbul Technical University, Turkey Molecular Biology and Genetics Program Thesis: <i>Extraction of Silk Fibroin from Silk Cocoons for Bone Tissue Engineering</i> Supervisor: Prof. Dr. Fatma Neşe KÖK	2015
Erasmus	Université de Strasbourg, France Supervisor: Joern PÜTZ	2012-2013

RESEARCH AND PROFESSIONAL EXPERIENCES

Post Doctoral Researcher Sabancı University, Istanbul Turkey Nanotechnology Research and Application Center (SUNUM)	2024 – Still
Teaching Assistant Sabancı University, Istanbul-Turkey Faculty of Engineering and Natural Sciences	2020 – 2024
Quality & Control Manager Regenerative Medicine and Stem Cell Center Liv Hospital, İstanbul-Turkey	2019 – 2020
Flow Cytometry Lab Manager Regenerative Medicine and Stem Cell Center Liv Hospital, İstanbul-Turkey	2018 – 2019

Project Engineer

R&D Center, Microbiology Laboratory
Arçelik Inc., İstanbul-Turkey

2016 – 2018

RESEARCH EXPERIENCES

Cornea Tissue Engineering

2020-present

Sabancı University Nanotechnology Research and Application Center (SUNUM)
Project: Development of corneal tissue substitutes by using peptide hydrogel and elastomer membrane
Author: Assist. Prof. Sibel Çetinel

Bone Tissue Engineering

2020-2023

Alginate-Gelatin Hydrogel Containing p-Coumaric Acid and Nanohydroxyapatite
Author: Assist. Prof. Sibel Çetinel & Dr. Ponnurengam Malliappan Sivakumar

Nanohydroxyapatite Containing Cryogel Tissue Scaffold
Author: Dr. Feray Bakan

Functionally Graded PCL Tissue Scaffold
Author: Prof. Güllü Kızıltaş

Exosome Purification and Characterization

2018-2020

Liv Hospital Regenerative Medicine and Stem Cell Center
Project: Isolation of exosome from Wharton jelly derived mesenchymal stem cells.
Characterization of exosomes by using flow cytometry

Biosensor Fabrication

2015-2018

Arçelik R&D Center – İstanbul Technical University
Project: Biosensor fabrication for microorganism detection on white goods
Author: Prof. Dr. Nevin Gül Karagüler & Dr. Abdullah Sert

Bone Tissue Engineering

2014-2015

İstanbul Technical University
Project: Isolation and characterization silk fibroin from cocoon for usage in bone tissue engineering
Author: Prof. Dr. Fatma Neşe Kök

INTERNSHIP EXPERIENCES

Arçelik Inc. R&D Center
Cleaning Technologies Department
July 2014 – September 2014
Study: Providing UV production and antimicrobial activity to textiles by using specific washing programs.

Eczacıbaşı-Baxter Hospital Products Inc.
Microbiology and Chemistry Laboratories
January 2014 – February 2014
Study: Carrying out QC tests such as HPLC and endotoxin for some products like serum.

Scientific and Technological Research Council
of Turkey (TÜBİTAK)
Gene Engineering Department
August 2013 – September 2013
Study: Designing a sensor system to detect specific gene sequences for diagnosis.

L'Institut de Génétique et de Biologie Moléculaire
et Cellulaire (IGBMC), Strasbourg / France
Translational Medicine and Neurogenetics Department
June 2013 – July 2013
Study: Searching the effect of the mutation on 16p11 and the relation between the mutation and autism

PUBLISHED ARTICLES

3D-Printed Functionally Graded PCL-HA Scaffolds with Multi-Scale Porosity

Hatice Kubra Bilgili, Mehmet Serhat Aydin, Mervenaz Sahin, Sevilay Burcu Sahin, Sibel Cetinel, and Gullu Kiziltas – ACS Omega – DOI: 10.1021/acsomega.4c06820

Bone Tissue Engineering: Anionic polysaccharides as promising scaffolds

Ponnurengam Malliappan Sivakumar, Abuzer Alp Yetisgin, Sevilay Burcu Sahin, Ebru Demir, Sibel Cetinel - Carbohydrate Polymers - DOI: 10.1016/j.carbpol.2022.119142

On the application of hydrodynamic cavitation on a chip in cellular injury and drug delivery

Ilayda Namli, Zeynep Karavelioglu, Seyedali Seyedmirzaei Sarraf, Araz Sheibani Aghdam, Rahmetullah Varol, Abdurrahim Yilmaz, Sevilay Burcu Sahin, Beyzanur Ozogul, Dila Naz Bozkaya, Havva Funda Acar, Huseyin Uvet, Sibel Çetinel, Özlem Kutlu, Morteza Ghorbani and Ali Koşar - Lab on a Chip - DOI: 10.1039/D3LC00177F

Polysaccharide-bioceramic composites for bone tissue engineering: A review

Ponnurengam Malliappan Sivakumar, Abuzer Alp Yetisgin, Ebru Demir, Sevilay Burcu Sahin, Sibel Cetinel – International Journal of Biological Macromolecules - DOI: 10.1016/j.ijbiomac.2023.126237

Enhanced properties of nickel-silver codoped hydroxyapatite for bone tissue engineering: Synthesis, characterization, and biocompatibility evaluation

Ponnurengam Malliappan Sivakumar, Abuzer Alp Yetisgin, Ebru Demir, Sevilay Burcu Sahin, Sibel Cetinel – Environmental Research - DOI: 10.1016/j.envres.2023.117131

POSTER PRESENTATIONS

Global Nanobiotechnology Consortium (GNC) 2021

Production of Corneal Tissue Substitutes by Applying Primary Corneal Cell Cultures on 3D Peptide Hydrogel and Elastomer Membrane Scaffolds

Tissue Engineering and Regenerative Medicine International Society (TERMIS) 2021

Primary Corneal Cell Cultures on 3D Peptide Hydrogel / Elastomer Membrane Scaffolds as Corneal Tissue Substitutes

International Biomedical Science and Technology Symposium (BIOMED) 2022

Mimicking the Corneal Epithelial Layer by Using PGS Film and Primary Corneal Epithelial Cells

Materials Research Society (MRS) 2023

Mimicking the Corneal Epithelial Layer by Using PGS Film and Primary Corneal Epithelial Cells