

Sedat Odabaş, Prof.
PhD. Bioeng.
Curriculum Vitae

Ankara University, Faculty of Science Department
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Biomaterials and Tissue Engineering
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EDUCATION

2011 Ph.D., Bioengineering, Hacettepe University

Hacettepe University, Faculty of Engineering, Department of Chem. Engineering, Bioengineering Division, Ankara, Turkey.

GPA: 4.00/4.00 *Supervisor: Prof. Dr. Erhan Piskin Ph.D., ChemEng.*

Ph.D. Thesis: *Development of novel tissue engineering strategies on Cartilage Tissue Formation. (This Thesis is mainly focused on using gene therapy perspective (here, using hBMP-7 plasmid via non-viral gene transfection) for Auricular Cartilage Engineering on Gelatin/Ox-Dextran Scaffolds both in-vitro and in-vivo Rabbit Animal Models)*

2006 M.Sc., Bioengineering, Hacettepe University

Hacettepe University, Faculty of Engineering, Department of Chem. Engineering, Bioengineering Division, Ankara, Turkey.

GPA: 3.75/4.00

MSc Thesis: *“Production of Magnetically Loaded Nanosorbents for Isolation of Mesenchymal Stem Cells.” (This thesis aimed to develop magnetically loaded (Fe₃O₄*

magnetite) polymeric nanosorbents, carrying specific monoclonal antibodies (here, namely CD105 and CD73) for separation of mesenchymal stem cells from cell suspensions to develop a competitive and an easy handle and fast separation system)

2004 B.Sc., Biology, Hacettepe University

Hacettepe University, Faculty of Science, Biology, Ankara, Turkey.

GPA: 3.69/4.00

(Laboratory studies and internship focused on Microbiological Growth and Enzymatic Production Systems.)

POST-DOCTORAL TRAINING

Dec. 2011 - Feb.2014 Tissue Engineering, Biomaterials and Nanobiotechnology Laboratory,
Ankara University

PROFESSIONAL EXPERIENCE

2024-present Full Professor, Biochemistry with Tenure, Ankara University
Faculty of Science, Department of Chemistry, Biochemistry Division

2017-2024 Associate Professor, Biochemistry with Tenure, Ankara University
Faculty of Science, Department of Chemistry, Biochemistry Division

2015-2017 Associate Professor, Bioengineering without Tenure, Ankara University
Faculty of Science, Department of Chemistry, Biochemistry Division

2014-2017 Assistant Professor, Department of Chemistry, Ankara University

ADMINISTRATIVE DUTIES

2017-2020 Vice-Dean, Faculty of Science, Ankara University

2014-2016 Process Supervisor, Stem Cell Institute, Tissue, and Cell Processing Center
(Authorized by Minister of Health), Ankara University

2014-2022 Advisory Board Member of Ankara Technology Transfer Office.

OUTGOING EXPERIENCE

- 2024** *Visiting Researcher, July 2024, Lieleg Lab. at Center for Functional Protein Assemblies (CPA) with Prof. Oliver Lieleg*
- focused on studying mucin-coated decellularized plants as a novel cellulose-based wound dressing material.*
- 2022** Guest Researcher, Technical University Munich (TUM), Munich, Germany
- Visiting Researcher, May - July 2022, Lieleg Lab. at Center for Functional Protein Assemblies (CPA) with Prof. Oliver Lieleg <https://www.mae.ed.tum.de/en/bme/staff/oliver.lieleg@tum.de>*
- The mini-projects that I conduct at Lieleg Lab. focused on processing and further rheological analysis of decellularized skin tissue (D-ECM) derived biomaterials.*
- 2008-2010** Integrated Ph.D., Ludwig Boltzmann Institute (LBI), Vienna Austria
- Integrated Ph.D. Programme, Network of Excellence: Novel Therapeutic Strategies for Tissue Engineering of Bone and Cartilage Using Second Generation Biomimetic Scaffolds, European Commission, 6th Framework Programme for Research, FP6-2002-NMP-1.***
- Coordinator: Ludwig Boltzmann Institute – Vienna Austria – Prof. Dr. Heinz REDL***
- This integrated Ph.D. program is a part of an FP6 Network of Excellence Expertissues Project, which aims to give the mobility to the selected Ph.D. students and have changed to take a part of the selected research group from EUROPE for improving their ability and help their education as well as their thesis project.*
- 2008** Visiting Researcher, Ludwig Boltzmann Institute (LBI), Vienna Austria
- Visiting Researcher, October - December 2008, Ludwig Boltzmann Institute(LBI) for experimental and clinical Traumatology*
- Donaueschingenstrasse 13, 1200 Wien Austria, with Georg Feichtinger, HeinzRedl <https://trauma.lbg.ac.at/georg.feichtinger@lbitrauma.org>*
- This mini-project was focused on plasmid modeling for cartilage tissue engineering, fundamental nucleic acid/protein analysis, and related works, transformation, and gene transfection via non-viral cationic or non-viral vectors to different cell lines as well as the primary cells.*

INDUSTRIAL EXPERIENCE

2023-.... Co-Founder at Regensis

Regensis expertise in designing advanced strategies for medical devices, biomaterials, novel bio-ink formulations as well as adapting human, animal and plant derived exosomes for industrial uses.

2010-2011 R&D Coordinator, BMT Calsis Co., Ankara Turkey

BMT Calsis is the first orthobiologic product manufacturer in TURKEY, working at the development and production line for hard and soft tissue repair products. Like as porous bio-resorbable ceramic (Tricalcium phosphate

granules and putty materials), matrix-mediated products (natural/collagen & synthetic/polymeric based materials).

Further experience on test systems and analyses for the cleanroom and product validation and quality control via related ISO standards.

www.bmtcalsis.com

2007-2009 R&D Specialist, Anthus Engineering Co. Ltd., Ankara Turkey

Focused on chromatographic systems and particle-based isolation systems

2004-2006 Research Scientist, Genkord Cord Blood Bank & Stem Cell Laboratories, İstanbul Turkey

Genkord is a Cord Blood Bank, established in Istanbul. Experience for stem cell research & therapy applications (e.g., Diabetic ulcers...), primary cell culture, cell differentiation from the umbilical cord and peripheral blood, cell- matrix interactions. www.genkord.com

2004-2006 **Research Scientist**, Biyomedtek: Center for Biomedical Technologies, Ankara Turkey

This center aims to build a collaboration between the university and the industry and support young researches according to university & industry needs. www.biyomedtek.org

RESEARCH EXPERIENCES and TOPICS

1. **Biomaterials for Tissue Engineering:** Specializing in hard tissue repair, particularly bone and cartilage, through genetically modified cell therapy (including stem cells and primary cells). Expertise in in-vitro cell differentiation and in-vivo tissue replacement/regeneration, with a focus on innovative decellularization strategies for regenerative therapies. Proficient in animal model design and laboratory animal practices.
2. **Bioinks:** Development of bioinks from various sources, including ECM-based for 3D bioprinting applications, optimizing their properties for improved cell viability and functionality in tissue engineering.
3. **Exosomes:** Focus on the characterization and application of both plant- and animal-derived exosomes, emphasizing their roles in intercellular communication and therapeutic potential. Expertise in utilizing exosomes for regenerative medicine, alongside industrial applications in biopharmaceuticals, nutritional use, and personal care products.
4. **Nano and Meso Particles:** Synthesis of superparamagnetic magnetite nanoparticles and mesoparticles for applications in separation, transfection, gene therapy immobilization, and drug delivery. Experience with silicon nanowires and their biological applications. Production and characterization of polymers with diverse bulk and surface properties, employing various fabrication techniques.

OTHER RESEARCH / NON- RESEARCH EXPERIENCES

- Graft Materials and ATMP Products: Extensive experience with allogenic and xenogenic graft materials, specializing in their development, validation, and regulatory compliance. Process Control and Management of Quality Control at GMP facilities under ISO regulations and standards
- Biocompatibility Testing, according to ISO 10993: Biological evaluation of medical devices.
- Microbiology Test methods / Contamination Control & Environmental Monitoring: I have advanced skills for basic microbiological test systems as well as Sterility Testing via European Pharmacopeia.
- EN ISO related Product validation: I know ISO 13485 Quality Control Systems and product validation and releasing parts. Validation and Test systems for Steam Sterilization and Radiation Sterilization. EN ISO related Clean Room Control & Management.
- Laboratory Animals Practice: I have the certificate for animal experience from the university that is approved by the Ministry of Health, TURKEY. I have the operation experience in the rat (cranial bone defects) and rabbit models (auricle cartilage defects).

PUBLICATIONS

1. Özcolak, B., Erenay, B., Odabaş, S., Jandt, K. D., & Garipcan, B. (2024). Effects of bone surface topography and chemistry on macrophage polarization. *Scientific reports*, 14(1), 12721.
2. Melek İpek Ertuğrul, Fulya Özdemir, Zeliha Esra Çakmak, Süveydanas Çakıcı, Şükrü Kaan Konaklı, Melissa Kılıç, **Sedat Odabaş**, (2024). Development of 3D Printed Scaffolds Containing Decellularized Plants and Investigation of Their Basic Cell Interactions, *Hacettepe Journal of Biology and Chemistry*, 52:6 303-318.
3. Ksouri, R., **Odabas, S.**, & Yar Sağlam, A. S. (2024). Exosome loaded 3D printed magnetic PLA constructs: a candidate for bone tissue engineering. *Progress in Additive Manufacturing*, 1-14.
4. Erdogan, Y. K., Uslu, E., Aydınol, M. K., Sağlam, A. S. Y., **Odabas, S.**, & Ercan, B. (2023). Morphology of Nanostructured Tantalum Oxide Controls Stem Cell Differentiation and Improves Corrosion Behavior. *ACS Biomaterials Science & Engineering*, 10(1), 377-390.
5. Toker-Bayraktar, M., Ertugrul, M. İ., **Odabas, S***, & Garipcan, B. (2023). A typical method for decellularization of plants as biomaterials. *MethodsX*, 11, 102385
6. Isik, M., Vargel, I., Ozgur, E., Cam, S. B., Korkusuz, P., Emregul, E., **Odabas S*** & Derkus, B. (2023). Human periodontal ligament stem cells-derived exosomes-loaded hybrid hydrogel enhances the calvarial defect regeneration in middle-age rats. *Materials Today Communications*, 36, 106869.
7. **Odabas, S.**, Derkuş, B., Vargel, İ., & Vural, A. C. (2023). Surgical method for critical sized cranial defects in rat cranium. *MethodsX*, 10, 102208.
8. Ertuğrul, M. İ., Gürbüz, A., Eskizengin, H., & **Odabaş, S***. (2023). Fast and versatile electrochemical approach for soft tissue decellularization. *MethodsX*, 102094.
9. Toker-Bayraktar, Melis, Berkay Erenay, Burak Altun, **Sedat Odabaş**, and Bora Garipcan. "Plant-derived biomaterials and scaffolds." *Cellulose* 30, no. 5 (2023): 2731-2751.
10. Kökcü, İ., Eryildiz, M., Altan, M., Ertuğrul, M. İ., & **Odabaş, S.** (2023). Scaffold fabrication from drug loaded HNT reinforced polylactic acid by FDM for biomedical applications. *Polymer Composites*, 44(4), 2138-2152.
11. Odabaş, S*, Garipcan, B., & Ksouri, R. (2023). Emerging applications of 3D engineered constructs from plant seed extracts. *Turkish Journal of Biology*, 47(2), 84-93.
12. Erenay, B., Sağlam, A. S. Y., Garipcan, B., Jandt, K. D., & **Odabaş, S***. (2022). Bone surface mimicked PDMS membranes stimulate osteoblasts and calcification of bone matrix. *Biomaterials Advances*, 142, 213170.
13. Unver, N., **Odabas, S.**, Demirel, G. B., & Gul, O. T. (2022). Hollow microneedle array fabrication using a rational design to prevent skin clogging in transdermal drug delivery. *Journal of Materials Chemistry B*, 10(41), 8419-8431.
14. Karakaya, E., Erdogan, Y. K., Arslan, T. S., Arslan, Y. E., **Odabas, S.**, Ercan, B., ... & Derkus, B. (2022). Decellularized Bone Extracellular Matrix-Coated Electrospun PBAT Microfibrous

Membranes with Cell Instructive Ability and Improved Bone Tissue Forming Capacity. *Macromolecular Bioscience*, 2200303

15. Puza, F., Rostami, S., Ozcolak, B., **Odabaş, S.**, Jandt, K. D., & Garipcan, B. Anisotropic Bone Surface Topography Mimicked Chitosan/Graphene Oxide Membranes. *Advanced Engineering Materials*. 2022/8. 10.1002/adem.202200777.
16. Unver N, Birlik Demirel G, **Odabas S**, Gul OT. Hollow Microneedle Array Fabrication with Rational Design to Prevent Skin Clogging in Transdermal Drug Delivery. *ChemRxiv*. Cambridge: Cambridge Open Engage; 2022. doi.org/10.26434/chemrxiv-2022-zwssl
17. Z Cimen, S Babadag, **S Odabas**, S Altuntas, G Demirel, GB Demirel “Injectable and Self-Healable pH-Responsive Gelatin–PEG/Laponite Hybrid Hydrogels as Long-Acting Implants for Local Cancer Treatment” *ACS Applied Polymer Materials*, (2021), 1-15.
18. M Eryildiz, M Altan, **S Odabas** Improvement of Mechanical and Biological Properties of PLA/HNT Scaffolds Fabricated by Foam Injection Molding: Skin Layer Effect and Laser Texturing, *International Polymer Processing*, (2021), <https://doi.org/10.1515/ipp-2020-4090>.
19. Bilirgen, Asu; Toker, Melis; **Odabas, Sedat**; Yetisen, Ali; Garipcan, Bora; Tasoglu, Savas, "Plant-Based Scaffolds in Tissue Engineering". *ACS Biomaterials Science & Engineering*, (2021), 7, 3, 926–938.
20. **Odabas, S.**, Tevlek, A., Erenay, B., Aydin, H. M., Suloglu, A. K., Saglam, A. S. Y., & Garipcan, B. Magnetically stimulated cryogels to enhance osteogenic and chondrogenic differentiation of stem cells. *bioRxiv*. (2021), <https://doi.org/10.1101/2021.02.15.431106> (pre-print).
21. Erenay, B., Garipcan, B., **Odabaş, S.**. Fabrication of Homogenous Magnetic PDMS Membranes to Mediate Cell Behavior. *Surface Innovations*, (2021), 1-9, doi.org/10.1680/jsuin.20.00085.
22. Toker, M., Rostami, S., Kesici, M., Gul, O., Kocaturk, O., **Odabas, S.**, Garipcan, B. (2020). Decellularization and characterization of leek: a potential cellulose-based biomaterial. *Cellulose*, 27(13), 7331-7348.
23. **S. Odabas**, B Erenay, B Garipcan Effects of modified and bone surface mimicked PDMS membranes and protein modifications on osteoblast cell behaviour. *Bone Reports* 13,100384. (ECTS'21 Conference Article).
24. Öztürk-Öncel, M. Ö., **Odabaş, S.**, Uzun, L., Hür, D., & Garipcan, B. (2020). A facile surface modification of poly (dimethylsiloxane) with amino acid conjugated self- assembled monolayers for enhanced osteoblast cell behavior. *Colloids and Surfaces B: Biointerfaces*, 196, 111343.
25. Betül Suyumbike Yagci, Sedat Odabas, and Eda Ayse Aksoy. Development of metformin chain extended polyurethane elastomers as bone regenerative films, *European Journal of Pharmaceutical Sciences*, 2019, 131, 84-92.
26. A. Tevlek, **S. Odabas**, E. Çelik, H.M. Aydin; Preparation of MC3T3-E1 cell sheets through short-term osteogenic medium application; *Artificial cells, Nanomedicine, and Biotechnology*, 2018;46(sup2):1145-1153.

27. **Sedat Odabaş**, Kadriye Tuzlakoglu, *Biomaterials and Stem Cells: From Basics to Applications, Decellularized Matrices in Stem Cell Research*, Eds. Bora Garipcan, Book Series 50th Years of Hacettepe University, Palme Yayınları , 2018., 201-212.
28. **Sedat Odabaş**, İleri Biyomalzemeler: Biyomalzeme ve Nanomalzeme Uygulamaları, Bölüm15. Mekanik İletim ve Hücrelere Etkisi, Eds. Filiz Kurulay Book Series 50th Years of Hacettepe University, Palme Yayınları , 2018., 285-297.
29. Vural Altuğhan Cahit, **Odabaş Sedat**, Korkusuz Petek, Yar Sağlam Atiye Seda, Bilgiç Elif, Çavuşoğlu Tarık, Bişkin Erhan, Vargel İbrahim Cranial bone regeneration via BMP- 2 encoding mesenchymal stem cells. *Artificial Cells, Nanomedicine, and Biotechnology*, 2017, 45 (3), 544-550.
30. **Odabas, Sedat**; Functional Polysaccharides Blended Collagen Cryogels, *Hacettepe Journal of Biology and Chemistry*, 2018 46 (1) 113-120.
31. B Bilgen, **S Odabas**, Effects of Mechanotransduction on Stem Cell Behavior, *Advanced Surfaces for Stem Cell Research*, Wiley Publishing, Book Eds. Ashutosh Tiwari, Bora Garipcan, Lokman Uzun, p45-65.
32. Parmaksız Mahmut, Arın Doğan, **Odabaş Sedat**, Elçin Ayşe Eser, Elçin Yaşar Murat. Clinical applications of decellularized extracellular matrices for tissue engineering and regenerative medicine. *Biomedical Materials*, 2016, 11(2), 22003, Doi: 10.1088/1748-6041/11/2/022003.
33. **Odabas S.** Collagen-carboxymethyl cellulose-tricalcium phosphate multi-lamellar cryogels for tissue engineering applications: Production and characterization. *Journal of Bioactive and Compatible Polymers*, 2016, 31 (4),411-422.
34. Ilyas Inci, **Sedat Odabas**, Ibrahim Vargel, Elif Guzel, Petek Korkusuz, Tarik Cavusoglu, Harald Kirsebom, Hakan Hamdi Celik, Figen Demirkazik, Bo Mattiasson, and Erhan Piskin, Gelatin-Hydroxyapatite Cryogels with Bone Morphogenetic Protein-2 and Transforming Growth Factor Beta-1 for Calvarial Defects, *Journal of Biomaterials and Tissue Engineering*, Vol. 4, 1–8, 2014.
35. **Sedat Odabas**, A. Eser Elcin, and Y. Murat Elcin, *Chapter 3: Isolation and Characterization of Mesenchymal Stem Cells*, Meral Beksaç (ed.), *Bone Marrow and Stem Cell Transplantation, Methods in Molecular Biology*, vol. 1109, DOI 10.1007/978- 1-4614-9437-9_3, © Springer Science+Business Media New York 2014.
36. **S. Odabas**, G.A. Feichtinger, P.Korkusuz, I.Inci, E.Bilgic, A.S.Yar, T.Cavusoglu, S.Menevse, I.Vargel, E.Piskin. Auricular cartilage repair using cryogel scaffolds loaded with BMP-7-expressing primary chondrocytes, *J. Tissue Eng. Regen. Med.* 2013, 7 (10) 831-840, DOI: 10.1002/term.1634.
37. Lehninger, *Biyokimyanın Temelleri*, Çeviri Ed. Y. Murat Elçin Palme Yayıncılık Beşinci Baskıdan Çeviri / *Lehninger Principles of Biochemistry* Fifth edition, D. L. Nelson, M. M. Cox **Contributor as Translator of the Chapters**
38. **Odabas, Sedat**; Inci, İlyas; Piskin, Erhan. *Gelatin/Oxide-Dextran Cryogels: In-Vitro Biocompatibility Evaluations Hacettepe Journal of Biology and Chemistry*, 2012 40 (4) 409-417.

39. Kavaz D, **Odabas S**, A. Vaseashta, E.Denkbas. *A Practical Methodology of IgG Purification via Chitosan Based Magnetic Nanoparticles*, *Digest J. Nanomat. Biostruct.*, 2012, 7 (3) 1165-1177.
40. ZA. Gencer, **S. Odabas**, HT Sasmazel, E. Piskin *Macroporous silicone biomaterials with modified surface chemistry: Production and characterization*. *Journal of Bioactive Compatible Polymers*, 2012, 27 (5) 419-428 doi: 10.1177/0883911512455115.
41. **B. Garipcan***, **S. Odabas***, G. Demirel, J. Burger, B. Nabet, J.E. Spanier, E.Piskin *In vitro Biocompatibility of n-type and Undoped Silicon Nanowires*, *Advanced Biomaterials*, **2011**, 13,1-2, B3-B9, **DOI: 10.1002/adem.200980045**. *equally contributed.
42. Doga Kavaz, **Sedat Odabas**, Eylem Güven, **Murat Demirbilek** and Emir Baki Denkbaş. *Bleomycin Loaded Magnetic Nanoparticles as Multifunctional Nanocarriers*. *Journal of Bioactive and Compatible Polymers*. 2010, 25: 305-318. DOI: 10.1177/0883911509360735.
43. **S. Odabas**, F. Sayar, G. Güven, G. Yanikkaya-Demirel, E. Piskin. Separation of Mesenchymal Stem Cells with Magnetic Nanosorbents Carrying CD105 and CD73 Antibodies in Flow-Through and Batch Systems. *J. ChromB.* , Volume 861, 2008, Pages 74-80.

PATENTS, REPORTS, AND THESIS

TPE 2014-16111 Turkish Patent

“An ECM Material” - 02/2018

This patent describes a decellularized ECM derived scaffold where the decellularization has been performed via step-by-step multiple cocktails.

Consultant at Biovalda Co.

“Determining the R&D Infrastructure of Biotechnological Product Turnout in Turkey”

Philosophy of Doctorate Thesis

“Development of novel tissue engineering strategies on Cartilage Tissue Formation.”

Master of Science Thesis:

“Production of Magnetically Loaded Nanosorbents for Isolation of Mesenchymal Stem Cells”

PROJECTS

- MAG-223M194 - The Scientific and Technological Research Council of Turkey Research Projects Development of a Novel Decellularized Based Wound Dressing Based for Superficial Wounds – **(Principal Investigator) – 60.000 Euro**
- 1004-22AG055- The Scientific and Technological Research Council of Turkey Research Projects New Generation Biomaterial Technologies Research Network Platform for Healthy Life –**(Senior Researcher) – 200.000 Euro**
- MAG-123M287 - TUBITAK MiniProjects Synthesis of Visible Light Cross-Linkable Histamine-Based Biomolecules and Investigation of Their Potential Applications in

Biomaterials (Scientific Advisor) – 3.000 Euro

- MAG-220S423- TUBITAK MiniProjects Development of 3D Printed Scaffolds From Decellularized Plants and Investigation of Its Effects on Cartilage Tissue Differentiation (2021-2022). **(Principal Investigator) - 5.000 Euro**
- SBAG-220S423- TUBITAK MiniProjects Development of injectable hydrogels from human Periodontal Ligament Fibroblast (hPDLF) and human vascular endothelial cell (HUVEC) derived exosomes and their in vivo applications - (2021-2022) **(Senior Researcher) – 5.000 Euro**
- MAG-217M551 - The Scientific and Technological Research Council of Turkey Research Projects Development of bone tissue-like patterned magnetic stimulated polydimethylsiloxane (PDMS) tissue matrices and their efficacy evaluations, (2018-2020) **(Principal Investigator) - 75.000 Euro**
- MAG-119S511 - The Scientific and Technological Research Council of Turkey Research New Placenta Models and Investigation of Their Effectiveness, (2018-2020) **(Consultant) - 90.000 Euro**
- MAG-118M610 - The Scientific and Technological Research Council of Turkey Research Projects Development of skeletal muscle tissue-specific 3D combined bioactive tissue matrix and evaluation of their influence on myogenic cell activities under electrical stimulation (2018-2021) **(Senior Researcher) – 65.000 Euro**
- TÜBİTAK- 3501 - CAREER Research Projects Fabrication of Polymer Supported Carbon Nanotube Micro Needle Array for Intradermal Drug 1001 Delivery, (2018-2021) **(Senior Researcher) – 40.000 Euro.**
- MAG-115M522 – 3501 Early Career Project (CAREER) Production of Magnetic Based Scaffolds and Comprehensive Investigation of Their Mechano-Transductive Effects on Stem Cell Behaviors, (2016-2018) **(Principal Investigator) – 80.000 Euro**
- MAG-214M159 –The Scientific and Technological Research Council of Turkey Research Projects and COST BM1302 Comparative Evaluations of Effectiveness of ECM from Pluripotent, Multipotent and Somatic Cell Culture as a Natural Niche and Biomimetic Component of Tissue Engineered Scaffolds (2015- 2018) **(Senior Researcher) – 195.000 Euro**
- SBAG-111S497 - The Scientific and Technological Research Council of Turkey Research Projects Investigation of Adipose Derived Mesenchymal Stem Cell Differentiation on Nanostructured Gels (2011-2014) **(Researcher) – 165.000 Euro**
- Hacettepe University - BAB-0801602012 “Development of new tissue engineering strategies for cartilage development” 2009-2011 **(Senior Researcher) – 45.000 Euro**
- TBAG-107T112 - The Scientific and Technological Research Council of Turkey Research Projects Development of Plasmid DNA Purification Kits Based on Magnetically Loaded Polymeric Nanoparticles 2008-2010 **(Researcher) – 200.000 Euro**
- KOSGEB- **Small & Medium Enterprises Development Organization:** Technology

development and innovation support; Development of different types chromatographic column systems for HPLC. 2008-2009. **(Chief Scientist) – 52.000 Euro**

- Network of Excellence: Novel Therapeutic Strategies for Tissue Engineering of Bone and Cartilage Using Second Generation Biomimetic Scaffolds, European Commission, 6th Framework Programme for Research, FP6-2002-NMP-1, 2004-2009 **(Integrated researcher) – 7.200.000 Euro**
- Production of Magnetically Loaded Nanosorbents for Separation and the Culture of Mesenchymal Stem cells. TUBITAK-SBAG Project no: 104S559, July 2005- Oct 2006, **(Researcher) – 185.000 Euro**

TEACHING (2014 – Present) and SUPERVISING ACTIVITIES (2017-Present)

- **General Chemistry (KIM 101-102)** – Undergraduate / Chemistry Program in EN
 - **Biochemistry (CHM 0319-0320)** – Undergraduate / Chemistry Program in EN
 - **Biocompatibility (BME3338)** – Undergraduate / Biomedical Engineering. Program in EN
 - **Biochemistry Laboratory (CHM 358)** – Undergraduate / Chemistry Program in TR/EN
 - **Cytology for Chemist (KIM 425-CHM 425)** – Undergraduate / Chemistry Program in TR/EN
 - **Biopolymers** – Graduate / Interdisciplinary
 - **Tissue Biochemistry** - Graduate / Interdisciplinary
- I. Berkay Erenay: Investigation of Effects of Decellularized Osteoblast Extracellular Matrix on Stem Cell Behavior (PhD - On-going)
 - II. Fulya Özcan: Synthesis of Novel Visible Light Cross-Linker Biomolecules and Investigation of Their Potential Use. (PhD - On-going)
 - III. Süveyda Kocacık: Investigation of Osteoblast Cell Behavior on Bone Surface Mimicked Methacrylated Hydrogels. (MSc-2023)
 - IV. Melek İpek Ertugrul: Melt Electrowritten (MEW) Scaffolds from Decellularized Skin Tissues (MSc-2022)
 - V. Rihab Ksouri: Development of exosome incorporated 3D printed magnetic PLA scaffolds and evaluation of their effect on osteogenic differentiation. (MSc-2021)
 - VI. Gürkan Tiryaki: Development of 3D printed poly (lactic acid) scaffolds patterned with strontium-nano-zeolite A for bone regeneration. (MSc-2020)
 - VII. Berkay Erenay: The Effect of Bone Surface Mimicked Magnetic Particle Embedded PDMS Membranes on Human Osteoblast Cell Behavior (MSc-2019)
 - VIII. Sükrü Kaan Konaklı (2024-)
 - IX. Melissa Kılıç (2024 -)

SCHOLARSHIPS & AWARDS

- 2009-2011** The Scientific and Technological Research Council of Turkey, Young Scientist Supporting Program / Full Scholarship for Graduate / Ph.D. Students in Basic Sciences.
- 2004-2006** The Scientific and Technological Research Council of Turkey, Young Scientist Supporting Program / Full Scholarship for Graduate / Master Students in Basic Sciences.
- 2004** Hacettepe University / Ihsan Dogramaci “Graduation With a Great Success Award” 1st Degree in Biology Department and 2nd Degree in Faculty of Science, **(2004)** Graduation Year.
- “Prof. Dr. Ihsan Dogramaci was the founder of Hacettepe University and Bilkent University and was in the chair of the Middle East Technical University board of trustees. He was the founder Fellow of the Royal College of Pediatrics and Child Health, London, and has been an Honorary Scientific Advisor to the International Centre for Childhood Studies in England. He was the president of the IPA/UNICEF/WHO task force.”*
- 2001-2004** The Scientific and Technological Research Council of Turkey, Young Scientist Supporting Program / Full Scholarship for Young Undergraduate Students in Basic Sciences.

PROFESSIONAL SOCIETY MEMBERSHIPS

- Materials Research Society (MRS), Membership (2021-...)
- Royal Society of Chemistry, Membership, (2020-...) European
- Society for Biomaterials, Membership, (2017-...)
- TERMIS, Annual Conference Based Membership, (2013-2014)
- Society for Biomedical Technologies (BIYOMEDTEK-TURKEY), charter member, (2008-2013)
- Founding president of the Society for Biomaterials Research (BMAD) (2022- ...)

