

## Oguzhan Gunduz

### Personal Information

Citizenship: Turkey  
Residency: Turkey Permanent Resident

### Contact Information

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Istanbul, 34722, Turkey  
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### A. BRIEF NARRATIVE

Dr Oguzhan Gunduz, as a researcher in biomaterials and tissue engineering, is involved in various aspects of biomaterials research. Dr Gunduz is also the coordinator of Center for Nanotechnology and Biomaterials Application and Research Center, which he founded. More than 15 researchers and postdocs and more than 80 graduate and doctoral students are working in this Center. His work focuses on the design, development, and characterisation of biomaterials with applications in the medical field. He works on the design, development, and characterisation of biomaterials for various biomedical applications. His research includes studying biomaterials-tissue interactions, exploring their use in tissue engineering and regenerative medicine, developing drug delivery systems, and improving biomaterials for medical implants and devices. By advancing these areas, he contributes to the field of biomaterials and aims to enhance patient outcomes in healthcare. He has published extensively in various reputable journals covering a wide range of research areas. Dr Gunduz carries out national and international projects. At the same time, more than 30 international researchers make joint projects and scientific articles. His work spans the fields of biomaterials, tissue engineering, drug delivery systems, nanotechnology, and materials science. Some of the prominent journals where his research has been featured include the Journal of Biomaterials and Tissue Engineering, Materials Science and Engineering: C, Journal of Drug Delivery Science and Technology, International Journal of Biological Macromolecules, Journal of Materials Science: Materials in Medicine, Materials Chemistry and Physics, Nanomedicine: Nanotechnology, Biology, and Medicine, International Journal of Pharmaceutics, and Journal of Biomedical Materials Research Part B: Applied Biomaterials. Dr Gunduz's research has a total of more than 4715 citations since 2009. The h-index is 35.

### RESEARCH INTEREST

#### A.1. Special Fields of Knowledge

Biomaterials and Tissue Engineering

#### A.2. Area of Interest

Medical technologies, Biomaterials, Tissue Engineering, 3D-Bioprinting, Regenerative Medicines, Drug Delivery, Bioceramics, Nanotechnology

### B. EDUCATION

2013	Ph.D., University College London, United Kingdom
2005	MSc., Metal Education, Marmara University, Turkey
2001	B.S., Metal Education, Marmara University, Turkey

### C. PROFESSIONAL EXPERIENCE

Nov 2022-	Professor, Metallurgical and Materials Engineering Marmara University, Istanbul, Turkey
Aug 2017-	Head of Department, Metallurgical and Materials Engineering Marmara University, Istanbul, Turkey
Aug 2018-	Founder and Director of the Center of Nanotechnology & Biomaterials Application and Research Marmara University, Istanbul, Turkey
Aug 2018-	Coordinator of Research Project office, Marmara University, Istanbul, Turkey
Aug 2019-	Scientific Award Committee Member, Marmara University, Istanbul, Turkey
Aug 2019-	Tubitak Istanbul Asia Regional Project Content Coordinator, Marmara University, Istanbul, Turkey
Aug 2018-	Faculty Board Member, Faculty of Technology Marmara University, Istanbul, Turkey
Aug 2017- Nov 2022	Associate Professor, Metallurgical and Materials Engineering Marmara University, Istanbul, Turkey

Oguzhan Gunduz

February 5, 2024

Aug 2015- Aug 2017 Deputy Head of Department, Metallurgical and Materials Engineering  
Marmara University, Istanbul, Turkey

June 2014- April 2017 Assistant Professor, Metallurgical and Materials Engineering  
Marmara University, Istanbul, Turkey

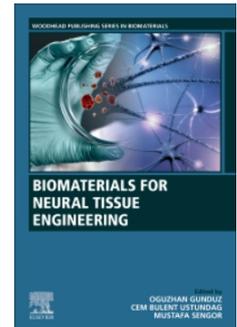
**D. SCHOLARSHIP** (>3,290 Citations; H-index of 31; i-10 index of 109/Google Scholar as of June 25, 2023)

**D.1. Books** (authored)

1. **Gunduz, O.**, Ustundag, C. B., & Sengor, M. (2023). *Biomaterials for neural tissue engineering*. Woodhead Publishing. <http://www.sciencedirect.com:5070/book/9780323905541/biomaterials-for-neural-tissue-engineering>.
2. **Gunduz O**, Egles C, Perez R, Ficai D & Ustundag C (2023). *Biomaterials and Tissue Engineering*. Springer (Under Pressing)

**D.2. Book Chapters**

1. Bedir, T., Mustafa, S., **Gunduz, O.**, & Ustundag, C. B., (2023). The need for biomaterials in neural tissue engineering. 1–8. <https://doi.org/10.1016/B978-0-323-90554-1.00001-X>.
2. Cesur, S., Ulag, S., & **Gunduz, O.**, (2023). Microfluidic systems for neural tissue engineering. *Biomaterials for Neural Tissue Engineering*, 125–149. <https://doi.org/10.1016/B978-0-323-90554-1.00013-6>.
3. Ege, Z. R., Ege, H., **Gunduz, O.**, & Uzun, M., (2023). Biobased materials in nerve regeneration. In *Advanced Applications of Biobased Materials*. Elsevier Inc. <https://doi.org/10.1016/b978-0-323-91677-6.00015-5>.
4. Ulag, S., & **Gunduz, O.**, (2022). Quantum Dot-Based Nanomaterials for Diagnostic and Therapeutic Applications. *Nanotechnology in the Life Sciences*, 429–453. [https://doi.org/10.1007/978-3-031-12658-1\\_15/FIGURES/5](https://doi.org/10.1007/978-3-031-12658-1_15/FIGURES/5)
5. Uzun, M., Kuyumcu, A. D., & **Gunduz, O.**, (2021). 3D-Printed Lanolin-Based Sodium Alginate Wound Dressings. In *Engineering Materials for Stem Cell Regeneration* (217-236). Springer, Singapore.
6. Calikoglu Koyuncu, A. C., Dogan, E., Uzun, M., & **Gunduz, O.**, (2021). An Overview of the Use of Dental Stem Cells and Polycaprolactone Scaffolds in Tissue Engineering. *Engineering Materials for Stem Cell Regeneration*, 139-162.
7. Ilhan, E., Ozerol, E. A., Alpdagtas, S., Sengor, M., Ustundag, C. B., & **Gunduz, O.**, (2021). Biofunctional Inks for 3D Printing in Skin Tissue Engineering. In *3D printable Gel-inks for Tissue Engineering*, 229-259, Springer, Singapore.
8. Ulag, S., Cesur, S., Dogan, E., Sengor, M., Ekren, N., Ustundag, C. B., & **Gunduz, O.**, (2021). Gel-Inks for 3D Printing in Corneal Tissue Engineering. In *3D printable Gel-inks for Tissue Engineering*, 161-190, Springer, Singapore.
9. Ege, Z. R., Unal, S., **Gunduz, O.**, & Uzun, M., (2021). Alginate-based bionanocomposites in medical textiles. In *Bionanocomposites in Tissue Engineering and Regenerative Medicine*, 377-398, Woodhead Publishing.
10. Unal, S., Oktar, F. N., Mahirogullari, M., & **Gunduz, O.**, (2021). Bone structure and formation: A new perspective. In *Bioceramics*, 175-193, Elsevier.
11. Unal, S., **Gunduz, O.**, & Uzun, M., (2020). Tissue engineering applications of bacterial cellulose-based nanofibers. In *Green Nanomaterials*, 319-346, Springer, Singapore.



**D.3. Inventions and Patents**

**D.3.1. Invention Disclosures**

1. Invention Disclosure by Marmara University. A biocompatible product with reparative and therapeutic properties for bone disorders and/or fractures and a method for obtaining said product (TR2022012983) (17 August 2022)
2. Invention disclosure by the Yildiz technology transfer office anonymous company, and Yildiz Technical University revolving capital management directorate. Dynamic light processing method microneedle production for transdermal drug release (TR2022/010005) (16 June 2022)
3. Invention disclosure by Kayra Koray Yilmaz. Biodegradable chitosan-fish scale collagen composite scaffold and manufacturing process for skin regeneration (TR2021020354) (18 December 2021).

4. Invention disclosure by Oguzhan Gunduz. Rating system in inhalation devices (TR2021017868) (16 November 2021).
5. Invention disclosure by Marmara University, and Istanbul Medipol University. A method for thiel-behnke corneal dystrophy (2022) and an artificial tissue scaffold produced by the maid method (TR202021080) (21 December 2020).
6. Invention disclosure by Marmara University, and Istanbul Medipol University. A living cell-loaded polymer/enzyme hydrogel production method and an artificial corneal layer produced by the maid method (TR202020549) (15 December 2020).
7. Invention disclosure by Günes Ece Akalin. Osteogenic osteoconductive biocompatible composite nanofiber scaffold for bone and cartilage tissue damage repair (TR201811205) (02 August 2018).
8. Invention disclosure by Marmara University, and Istanbul Medipol University. A biomimetic artificial blood vessel and a production method thereof (TR201707216) (16 May 2017)
9. Invention disclosure by Istanbul Medipol University. An artificial biomimetic nervous scaffolds and production method (TR201615825) (07 November 2016).

#### **D.4. Journal Publications**

##### **In Press/Forthcoming**

##### **Published**

##### **Bone Regeneration and Biomaterials:**

1. Gavinho, S.R, Bozdog, M, Kalkandelen C, Regadas J,S, Jakka, Gunduz, O, Oktar FN, Fernandes Graça M P., J. *Funct. Biomater.* (2023), An Eco-Friendly Process to Extract Hydroxyapatite from Sheep Bones for Regenerative Medicine: Structural, Morphologic and Electrical Studies, 14(5), 279; <https://doi.org/10.3390/jfb14050279>
2. Arpak, M, Daglilar, S., Kalkandelen, C., Balescu, L., Turkoglu Sasmazel, H., Pasuk, I., Durukan, G. S., **Gunduz, O.**, (2023). Physico - chemical characterization and in vitro biological study of manganese doped  $\beta$  - tricalcium phosphate - based ceramics for bone regeneration applications. *Journal of the Australian Ceramic Society*, 0123456789. <https://doi.org/10.1007/s41779-023-00889-5>
3. Tut, T. A., Cesur, S., Ilhan, E., Sahin, A., Yildirim, O. S., & **Gunduz, O.**, (2022). Gentamicin-loaded polyvinyl alcohol/whey protein isolate/hydroxyapatite 3D composite scaffolds with drug delivery capability for bone tissue engineering applications. *European Polymer Journal*, 179. <https://doi.org/10.1016/j.eurpolymj.2022.111580>.
4. Altan, E., Turker, N., Hindy, O. A., Dirican, Z., Ozakpinar, O. B., Demir, A. U., Kalaskar, D., Thakur, S., & **Gunduz, O.**, (2022). Investigation of 3D-printed chitosan-xanthan gum patches. *International Journal of Biological Macromolecules*, 213, 259–267.
5. Canli, M., Karasoy Yesilada, A., Ulag, S., Dobral, A., Yalcin, O., & **Gunduz, O.**, (2022). Evaluation of Diced Cartilage Grafts Shaped with Three-Dimensionally-Printed Bioresorbable Polycaprolactone Molds. *Plastic and reconstructive surgery*, vol.150, no.4.
6. Seyhan, S. A., Alkaya, D. B., Cesur, S., Oktar, F. N., & **Gunduz, O.**, (2022). Preparation and characterization of pure natural hydroxyapatite derived from seashells for controlled drug delivery. *Journal of the Australian Ceramic Society*.
7. Turan, Y., Kalkandelen, C., Palaci, Y., Sahin, A., Gokce, H., **Gunduz, O.**, & Ben-Nissan, B., (2022). Synthesis and cytotoxicity analysis of porous  $\beta$ -TCP/starch bioceramics. *Journal of the Australian Ceramic Society*, 58 (2), 487–494.
8. Akdeniz-Dogan Z, Sendur S, Karademir-Yilmaz B, Bugdayci O, Cilingir-Kaya OT, Yilmaz-Goler AM, **Gunduz O**, Celebiler OB., (2021). The Role of Extracellular Vesicles Secreted From Thermal Stress-Induced Adipose-Derived Stem Cells on Bone Regeneration. *J Craniofac Surg.*, 32 (6): 2245-2250.
9. Bozdog, G., Pinar, O., **Gunduz, O.**, & Kazan, D., (2021). Valorization of pea pod, celery root peel, and mixed-vegetable peel as a feedstock for biocellulose production from *Komagataeibacter hansenii* DSM 5602. *Biomass Conversion And Biorefinery* .
10. Izgordu, M. S., Uzgur, E. I., Ulag, S., Sahin, A., Karademir Yilmaz, B., Kilic, B., Ekren, N., Oktar, F. N., & **Gunduz, O.**, (2021). Investigation of 3D-Printed Polycaprolactone-/Polyvinylpyrrolidone-Based Constructs. *Cartilage*, 13 (2 suppl), 626S-635S.
11. Mutlu, M. E., Ulag, S., Sengor, M., Daglilar, S., Narayan, R., & **Gunduz, O.**, (2021). Electrospayed Collagen/Gentamicin nanoparticles coated microneedle patches for skin treatment. *Materials Letters*, 305.
12. Tasci, M. E., Dede, B., Tabak, E., Gur, A., Sulutas, R. B., Cesur, S., Ilhan, E., Lin, C. C., Paik, P., Fikai, D., Fikai, A., & **Gunduz, O.**, (2021). Production, optimization and characterization of polylactic acid microparticles using electrospray with porous structure. *Applied Sciences*, 11 (11), 1–13.
13. Topsakal, A., Midha, S., Yuca, E., Tukay, A., Sasmazel, H. T., Kalaskar, D. M., & **Gunduz, O.**, (2021). Study on the cytocompatibility, mechanical and antimicrobial properties of 3D printed composite scaffolds based on PVA/ Gold nanoparticles (AuNP)/Ampicillin (AMP) for bone tissue engineering. *Materials Today Communications*, 28, 102458.
14. Ulag, S., Uysal, E., Bedir, T., Sengor, M., Ekren, N., Ustundag, C. B., Midha, S., Kalaskar, D. M., & **Gunduz, O.**, (2021). Recent developments and characterization techniques in 3D printing of corneal stroma tissue. *Polymers for Advanced Technologies*, 32 (8), 3287–3296.

15. Aki, D., Ulag, S., Unal, S., Sengor, M., Ekren, N., Lin, C. C., Yilmazer, H., Ustundag, C. B., Kalaskar, D. M., & **Gunduz, O.**, (2020). 3D printing of PVA/hexagonal boron nitride/bacterial cellulose composite scaffolds for bone tissue engineering. *Materials and Design*, 196, 109094.
16. Bas, M., Daglilar, S., Kuskonmaz, N., Kalkandelen, C., Erdemir, G., Kuruca, S. E., Tulyaganov, D., Yoshioka, T., **Gunduz, O.**, Ficai, D., & Ficai, A., (2020). Mechanical and biocompatibility properties of calcium phosphate bioceramics derived from salmon fish bone wastes. *International Journal of Molecular Sciences*, 21 (21), 1–14.
17. Cakmak, A. M., Unal, S., Sahin, A., Oktar, F. N., Sengor, M., Ekren, N., **Gunduz, O.**, & Kalaskar, D. M., (2020). 3D Printed Polycaprolactone/Gelatin/Bacterial Cellulose/ Hydroxyapatite Composite Scaffold for Bone Tissue Engineering.
18. Ilhan, E., Cesur, S., Guler, E., Topal, F., Albayrak, D., Guncu, M. M., Cam, M. E., Taskin, T., Sasmazel, H. T., Aksu, B., Oktar, F. N., & **Gunduz, O.**, (2020). Development of *Satureja cuneifolia*-loaded sodium alginate/polyethylene glycol scaffolds produced by 3D-printing technology as a diabetic wound dressing material. *International Journal of Biological Macromolecules*, 161, 1040–1054.
19. Moukbil, Y., Isindag, B., Gayir, V., Ozbek, B., Haskoylu, M. E., Oner, E. T., Oktar, F. N., Ikram, F., Sengor, M., & **Gunduz, O.**, (2020). 3D printed bioactive composite scaffolds for bone tissue engineering. *Bioprinting*, 17, e00064.
20. Topsakal, A., Ekren, N., Kilic, O., Oktar, F. N., Mahirogullari, M., Ozkan, O., Sasmazel, H. T., Turk, M., Bogdan, I. M., Stan, G. E., & **Gunduz, O.**, (2020). Synthesis and characterization of antibacterial drug loaded  $\beta$ -tricalcium phosphate powders for bone engineering applications. *Journal of Materials Science: Materials in Medicine*, 31 (2).
21. Orman, Z., Yucel, S., Sahin, Y. M., **Gunduz, O.**, & Oktar, F. N., (2019). Bioactivity Of Hydroxyapatite Produced From Sea Snail *Turritella Terebra*. *Acta Physica Polonica A*, Vol.135, No.5, 1089-1092.
22. Cesur, S., Oktar, F. N., Ekren, N., Kilic, O., Bilgic Alkaya, D., Ayaz Seyhan, S., Ege, Z. R., Lin C., Erdem Kuruca S., Erdemir G., **Gunduz O.**, (2020). Preparation and characterization of electrospun polylactic acid/sodium alginate/orange oyster shell composite nanofiber for biomedical application. *Journal of the Australian Ceramic Society*, vol.56, no.2, 533-543.
23. Ulag, S., Kalkandelen, C., Bedir, T., Erdemir, G., Kuruca, S. E., Dumludag, F., Ustundag, C. B., Rayaman, E., Ekren, N., Kilic, B., & **Gunduz, O.**, (2020). Fabrication of three-dimensional PCL/BiFeO<sub>3</sub> scaffolds for biomedical applications. *Materials Science and Engineering B: Solid-State Materials for Advanced Technology*, 261.
24. Duymaz, B. T., Erdiler, F. B., Alan, T., Aydogdu, M. O., Inan, A. T., Ekren, N., Uzun, M., Sahin, Y. M., Bulus, E., Oktar, F. N., Selvi, S. S., ToksoyOner, E., Kilic, O., Bostan, M. S., Eroglu, M. S., & **Gunduz, O.**, (2019). 3D bio-printing of levan/polycaprolactone/gelatin blends for bone tissue engineering: Characterization of the cellular behavior. *European Polymer Journal*, 119, 426–437.
25. Ergul, N. M., Unal, S., Kartal, I., Kalkandelen, C., Ekren, N., Kilic, O., Chi-Chang, L., & **Gunduz, O.**, (2019). 3D printing of chitosan/poly(vinyl alcohol) hydrogel containing synthesized hydroxyapatite scaffolds for hard-tissue engineering. *Polymer Testing*, 79, 106006.
26. Aydogdu, M. O., Mutlu, B., Kurt, M., Inan, A. T., Kuruca, D. S., Erdemir, G., Sahin, Y. M., Ekren N., Oktar F. N., **Gunduz O.**, (2019). Developments Of 3d Polycaprolactone/Beta-Tricalcium Phosphate/Collagen Scaffolds For Hard Tissue Engineering. *Journal Of The Australian Ceramic Society*, Vol.55, No.3, 849-855.
27. Gurler, E. B., Ergul, N. M., Ozbek, B., Ekren, N., Oktar, F. N., Haskoylu, M. E., Oner, E. T., Eroglu, M. S., Ozbeyli, D., Korkut, V., Temiz, A. F., Kocanali, N., Gungordu, R. J., Kılıckan, D. B., & **Gunduz, O.**, (2019). Encapsulated melatonin in polycaprolactone (PCL) microparticles as a promising graft material. *Materials Science and Engineering C*, 100, 798–808.
28. Kalkandelen, C., Ulag, S., Ozbek, B., Eroglu, G. O., Ozerkan, D., Kuruca, S. E., Oktar, F. N., Sengor, M., & **Gunduz, O.**, (2019). 3D Printing of Gelatine/Alginate/ $\beta$ -Tricalcium Phosphate Composite Constructs for Bone Tissue Engineering. *ChemistrySelect*, 4 (41), 12032–12036.
29. Kung, F. C., Kuo, Y. L., **Gunduz, O.**, & Lin, C. C., (2019). Dual RGD-immobilized poly(L-lactic acid) by atmospheric pressure plasma jet for bone tissue engineering. *Colloids and Surfaces B: Biointerfaces*, 178, 358–364.
30. Ulag, S., Kalkandelen, C., Oktar, F. N., Uzun, M., Sahin, Y. M., Karademir, B., Arslan, S., Ozbolat, I. T., Mahirogullari, M., & **Gunduz, O.**, (2019). 3D Printing Artificial Blood Vessel Constructs Using PCL/Chitosan/Hydrogel Biocomposites. *ChemistrySelect*, 4 (8), 2387–2391.
31. Altun, E., Aydogdu, M. O., Koc, F., Crabbe-Mann, M., Brako, F., Kaur-Matharu, R., Ozen, G., Kuruca, S. E., Edirisinghe, U., **Gunduz, O.**, & Edirisinghe, M., (2018). Novel Making of Bacterial Cellulose Blended Polymeric Fiber Bandages. *Macromolecular Materials and Engineering*, 303 (3), 1–7.
32. Karacan, I., **Gunduz, O.**, Ozyegin, L. S., Gokce, H., Ben-Nissan, B., Akyol, S., & Oktar, F. N., (2018). The natural nano-bioceramic powder production from organ pipe red coral (*Tubipora musica*) by a simple chemical conversion method. *Journal of the Australian Ceramic Society*, 54(2), 317–329. <https://doi.org/10.1007/s41779-017-0156-1>
33. Ozbek, B., Erdogan, B., Ekren, N., Faik, & Oktar, N., Akyol, S., Ben-Nissan, B., Hilal, & Sasmazel, T., Kalkandelen, C., Mergen, A., Serap, & Kuruca, E., Ozen, G., & **Gunduz, O.** (n.d.). *Production of the novel fibrous structure of poly( $\epsilon$ -caprolactone) /tri-calcium phosphate/hexagonal boron nitride composites for bone tissue engineering*. <https://doi.org/10.1007/s41779-017-0149-0>
34. Kalkandelen, C., Moukbil, Y., Oktar, F. N., Ekren, N., Kilic, O., & **Gunduz, O.**, (2018). Electrical properties of clinoptilolite/aluminium oxide/bovine hydroxyapatite composites. *Materials Science Forum*, 923 MSF(October 2021), 98–101. <https://doi.org/10.4028/www.scientific.net/MSF.923.98>
35. Dumludag, F., **Gunduz, O.**, Kilic, O., Ekren, N., Kalkandelen, C., Ozbek, B., & Oktar, F. N., (2018). DC and AC conductivity properties of bovine dentine hydroxyapatite (BDHA). *IOP Conference Series: Materials Science and Engineering*, 293(1). <https://doi.org/10.1088/1757-899X/293/1/012003>

36. S., Ekren, N., Sengil, A. Z., Oktar, F. N., Irmak, S., Oral, O., Sahin, Y. M., Kilic O., Agathopoulos S., **Gunduz O.**, (2018). Synthesis, characterization, and biological properties of composites of hydroxyapatite and hexagonal boron nitride. *JOURNAL OF Biomedical Materials Research Part B-Applied Biomaterials* , vol.106, no.6, 2384-2392.
37. Komur, B., Bayrak, F., Ekren, N., Eroglu, M. S., Oktar, F. N., Sinirlioglu, Z. A., Yucel, S., Guler, O., & **Gunduz, O.**, (2017). Starch/PCL composite nanofibers by co-axial electrospinning technique for biomedical applications. *BioMedical Engineering Online*, 16(1). <https://doi.org/10.1186/S12938-017-0334-Y>
38. Duta, L., Mihailescu, N., Popescu, A. C., Luculescu, C. R., Mihailescu, I. N., Cetin, G., **Gunduz, O.**, Oktar, F. N., Popa, A. C., Kuncser, A., Besleaga, C., & Stan, G. E., (2017). Comparative physical, chemical and biological assessment of simple and titanium-doped ovine dentine-derived hydroxyapatite coatings fabricated by pulsed laser deposition. *Applied Surface Science*, 413, 129–139. <https://doi.org/10.1016/j.apsusc.2017.04.025>
39. Kalkandelen, C., Suleymanoglu, M., Kuruca, S. E., Akan, A., Oktar, F. N., & **Gunduz, O.**, (2017). Part 2: Biocompatibility evaluation of hydroxyapatite-based clinoptilolite and Al<sub>2</sub>O<sub>3</sub> composites. *Journal of the Australian Ceramic Society*, 53(1), 217–223. <https://doi.org/10.1007/S41779-017-0027-9>
40. Kalkandelen, C., **Gunduz, O.**, Akan, A., & Oktar, F. N., (2017). Part 1: Clinoptilolite-alumina-hydroxyapatite composites for biomedical engineering. *Journal of the Australian Ceramic Society*, 53(1), 91–99. <https://doi.org/10.1007/S41779-016-0013-7>
41. Inan, A. T., Komur, B., Ekren, N., Aydogdu, M. O., Gokce, H., Ficai, A., Salman, S., Oktar, F. N., & **Gunduz, O.**, (2017). Physical characterization of turbot (Psetta maxima) originated as natural hydroxyapatite. *Acta Physica Polonica A*, 131(3), 397–399. <https://doi.org/10.12693/APhysPolA.131.397>
42. Komur, B., Altun, E., Aydogdu, M. O., Bilgic, D., Gokce, H., Ekren, N., Salman, S., Inan, A. T., Oktar, F. N., & **Gunduz, O.**, (2017). Hydroxyapatite synthesis from fish bones: Atlantic Salmon (Salmon salar). *Acta Physica Polonica A*, 131(3), 400–402. <https://doi.org/10.12693/APhysPolA.131.400>
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44. Komur, B., Ozturk, E. R., Ekren, N., Inan, A. T., **Gunduz, O.**, Andronesco, E., Ficai, A., & Oktar, F. N., (2017). Characterization of Cu/Ag/Eu/hydroxyapatite composites produced by wet chemical precipitation. *Acta Physica Polonica A*, 131(3), 392–396. <https://doi.org/10.12693/APhysPolA.131.392>
45. Keler, M. K., Daglilar, S., & **Gunduz, O.**, (2017). Electrospun poly( $\epsilon$ -caprolactone)/bovine hydroxyapatite (BHA) composite nanofibers for bone tissue engineering. *Key Engineering Materials*, 720, 228–233. <https://doi.org/10.4028/www.scientific.net/KEM.720.228>
46. **Gunduz, O.**, Kilic, O., Ekren, N., Gokce, H., Kalkandelen, C., & Oktar, F. N., (2017). Natural hydroxyapatite synthesis from fish bones: “Atlantic Bonito” (Sarda sarda). *Key Engineering Materials*, 720, 207–209. <https://doi.org/10.4028/www.scientific.net/KEM.720.207>
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#### **D.5. Popular Press** (some of notable ones featuring O. Gunduz's research)



1. “Blood vessel produced in university”, Hurriyet.com.tr, 2018 ([Link](#))
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4. Cakalp, Melike, “The teacher will be artificial intelligence: A day at the virtual university”, Hurriyet, 2023 ([Link](#))

#### **D.6. Other Publications**

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#### **D.7. Conference Presentations**

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57. Dumludag, F., **Gunduz, O.**, Kilic, O., Kilic, B., Ekren, N., Kalkandelen, C., Oktar, F. N. (2017). Effects of sintering temperature on electrical properties of sheep enamel hydroxyapatite. 3rd International Conference on Smart Material Research (ICSMR), Melbourne, Australia
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67. Dumludag, F., **Gunduz, O.**, Kilic, O., Kilic, B., Ekren, N., Kalkandelen, C., Oktar, F. N. (2017). Effects of sintering temperature on electrical properties of sheep enamel hydroxyapatite. ICSMR 2017, 2017 3rd International Conference on Smart Material Research (pp.21). Melbourne, Australia
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  127. Oktar, F. N., Agathopoulos, S., Ozyegin, L. S., Turner, I. G., **Gunduz, O.**, Demirkol, N., Brueck, S., (2012). Nano-Bioceramic Production via Mechano-Chemical Conversion (Ultrasonication). 24th Symposium and Annual Meeting of International Society for Ceramics in Medicine (ISCM 2012) (pp.609-610). Fukuoka, Japan
  128. Karacayli, u., Yetmez, M., Kayali, E. S., Yesilbek, B., **Gunduz, O.**, Agathopoulos, S., Salman, S., (2011). Composites of hydroxyapatite doped with nano powder of titanium oxide. XXXVIII Congress of the European Society for Artificial Organs (ESAO 2011) and IV Biennial Congress of the International Federation on Artificial Organs (IFAO 2011)
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  132. Karacayli, U., **Gunduz, O.**, Salman, S., Ozyegin, L. S., Agathopoulos, S., & Oktar, F. N., (2008). Effect of Sintering Temperature on Mechanical Properties and Microstructure of Sheep-bone Derived Hydroxyapatite (SHA). 13th International Conference on Biomedical Engineering (ICBME) (pp.1271-1272). Singapore, Singapore
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  135. Ozyegin, L. S., Oktar, F. N., Salman, S., **Gunduz, O.**, Toksoy Oner, E., & Tuyel, U., (2008). New natural materials. 14th International Biomedical Science and Technology Symposium
  136. Dorozhkin, S., Oktar, F., & **Gunduz, O.**, (2008). Calcium orthophosphates. 8th World Biomaterials Congress 2008, WBC 2008 (pp.2218). Amsterdam, Netherlands
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  138. **Gunduz, O.**, Salman, S., Kayali, E. S., Goller, G., Goker, I., Agathopoulos, S., Ozyegin, L. S., (2007). Improvement of microstructure of bovine hydroxyapatite (BHA) with machineable fluorapatite glass (MFG). 20th International Symposium on Ceramics in Medicine (pp.495-496). Nantes, France
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  140. Salman, S., Cal, B., **Gunduz, O.**, Agathopoulos, S., & Oktar, F. N., (2007). The influence of bond-coating on plasma sprayed alumina-titania, doped with biologically derived hydroxyapatite, on stainless steel. 3rd International Conference on Advanced Research in Virtual and Rapid Prototyping (pp.289-290). Leiria, Portugal
  141. Peker, I., **Gunduz, O.**, Oktar, F., Salman, S., Agathopoulos, S., & Ozyegin, L., (2007). Aluminium oxide hydroxyapatite composites . 32nd Congress of the Federation-of-European-Biochemical-Societies (FEBS) (pp.287). Vienna, Austria
  142. Salman, S., Oktar, F. N., **Gunduz, O.**, Agathopoulos, S., Ovecoglu, M. L., & Kayali, E. S., (2006). Sintering effect on mechanical properties of composites made of bovine hydroxyapatite (BHA) and commercial inert glass (CIG). 19th International Symposium on Ceramics in Medicine (pp.189-190). Chengdu, China.

## **E. TEACHING EXPERIENCE**

### **E.1. Description of Courses Taught**

1. MET3057.1, Ceramics, Marmara University, Istanbul:
2. MLM4056.1., Biomaterials, Marmara University, Istanbul:
3. MLM4004.1, Graduation Project, Marmara University, Istanbul:

4. MLM474 Advanced Technology Ceramic Materials, Marmara University, Istanbul:
5. MLM8031.1, Introduction to Nanotechnology, Marmara University, Istanbul:
6. MLM8012.1, Nanofiber Material Production and Characterisation, Marmara University, Istanbul:
7. MLM7037.1, Micro/Nano Fiber Production and Characterization, Marmara University, Istanbul:
8. MLM8011.1, Biomaterials Technology, Marmara University, Istanbul:
9. MLM3006.1, Material Characterization Technologies and Applications, Marmara University, Istanbul:
10. MLM3050.1, Nanomaterials, Marmara University, Istanbul:
11. MLM1002.1, Materials Science, Marmara University, Istanbul:
12. ELM1004.1 Materials Science of Electric and Electronic, Marmara University, Istanbul:
13. MLM8032.1 Nanomaterials and Properties, Marmara University, Istanbul:

## **F. MENTORING**

### **F.1. Current Lab members at Marmara University (NBUAM Lab MLM8011.1.)**

1. Ridvan Yildirim (Spring 2021-Present)  
Post-doctoral Fellow  
Research Topic: 3D printing for tissue engineering
2. Elif Ilhan PhD (Spring 2017-Present)  
Post-doctoral Fellow  
Research Topic: Nanofiber production for the treatment corneal perforation
3. Berrak Bulut (Fall 2019-Present)  
Post-doctoral Fellow  
Research Topic: Production of drug-loaded hydrogel-based microneedles for the treatment of epilepsy
4. Tuba Bedir MS (Spring 2019- March 2021)  
PhD Student (Spring 2021- Present)  
Research Topic: DLP 3D Printing of GelMA Microneedles
5. Dilruba Baykara, MS (Fall 2020- 2022)  
PhD Student (Spring 2023- Present)  
Research Topic: DLP 3D Printing of GelMA Microneedles
6. Esra Pilavci, MS (Fall 2020-2022)  
PhD Student (Spring 2023-Present)  
Research Topic: Electrospinning technique for corneal perforation
7. Hatice Karabulut, MS (September 2015-2021).  
PhD Student (Fall 2022-Present)  
Research Topic: 3D printing dental membrane scaffolds
8. Melih Musa Ayran, MS (September 2020-2022)  
PhD Student (Spring 2023-Present)  
Research topic: Production of personalized symblepharon rings with a 3D printer
9. Sule Ilgar (August 2017-2022)  
PhD Student (Spring 2023-Present)  
Research Topic: 3D scaffolds containing drug-loaded photocatalytic BiFeO<sub>3</sub> Nanoparticles
10. Eray Altan (September 2020-Present)  
Master Student  
Research Topic: Production of drug-loaded nanofibers by electrospinning method

11. Zekiye Akdag (August 2021-Present)  
Master Student  
Research Topic: Methacrylation processes, 3D printing for tissue engineering
12. Beyza Topcu (October 2021-Present)  
Master Student  
Research Topic: 3D printing of bone and cartilages regenerations
13. Tufan Arslan Tut (Fall 2019- Present)  
Master Student  
Research Topic: 3D printing for bone regeneration
14. Rabia Betul Sulutas (Fall 2019- Present)  
Master Student  
Research Topic: Electrospinning technique for corneal perforation
15. Gozde Enguven (Spring 2019- Present)  
Master Student  
Research Topic: Biomaterial production with 3D printer in the field of cancer and incisional hernia
16. Huseyin Berkay Ozarici (Spring 2019- Present)  
Master Student  
Research Topic: Production of drug-loaded microneedles for plant diseases
17. Ihsan Fatih Ertas (Spring 2019- Present)  
Master Student  
Research Topic: Production of silk fibroin-lanolin blended nanofibrous structures
18. Irem Tuba Arslan (Spring 2019- Present)  
Master Student  
Research Topic: Production of cardamom oil-loaded nano/microstructures via electrospray technique
19. Muge Koyun (Spring 2019- Present)  
Master Student  
Research Topic: 3D printing for bone regeneration
20. Yigit Turan (Spring 2019- Present)  
Master Student  
Research Topic: Additive manufacturing of biomaterials DLP & FDM, composite 3D Printing
21. Armaghan Moradi (Spring 2019- Present)  
Master Student  
Research Topic: Exploring the relationship of the human microbiota to neurodegenerative disease
22. Merve Yilmaz (Spring 2019- Present)  
Master Student  
Research Topic: Efficiency-enhancing coatings for photovoltaic panels by electrospinning
23. Elif Nur Yildiz (Spring 2019- Present)  
REU Student  
Research Topic: Methacrylation processes, 3D printing for tissue engineering
24. Mehmet Sertac Cekuc (Spring 2019- Present)  
REU Student  
Research Topic: Cartilage tissue production
25. Burcak Bulut (Spring 2019- Present)  
REU Student  
Research Topic: Production of electrospun nanofiber for wound dressing
26. Irem Yildiz (Spring 2019- Present)  
REU Student  
Research Topic: Stent fabrication using 3D printing and electrospinning technique
27. Gulsüm Ercan (Spring 2019- Present)  
REU Student  
Research Topic: Nanofiber production for treatment corneal perforation

28. Nasma Anjrini (Spring 2019- Present)  
REU Student  
Research Topic: Production of nanofibers for the treatment of skin infections
29. Mehmet Necati Danisik (Spring 2019- Present)  
REU Student  
Research Topic: Production of nanofibers for the treatment of cardiac deflections
30. Sema Seren Karapehlivan (Spring 2019- Present)  
REU Student  
Research Topic: Production of nanofibers for the treatment of cardiac deflections
31. Beyza Sönmez (Spring 2019- Present)  
REU Student  
Research Topic: 3D printing for artificial axon
32. Deniz San Gürlü (Spring 2019- Present)  
REU Student  
Research Topic: 3D printing for diabetic retinopathy treatment
33. Dervis Agca (Spring 2019- Present)  
REU Student  
Research Topic: Production of nanoparticles for biomedical applications
34. Senanur Kisin (Spring 2019- Present)  
REU Student  
Research Topic: Production of nanofibers for the treatment of corneal keratitis

## **F.2. Alumni**

1. Elif İlhan (2023)  
PhD Student  
Research Topic: “Design, fabrication, and characterization of corneal patches for tissue engineering application”
2. Esra Pilavci (2023)  
MS Student  
Research Topic: “Fabrication and characterization of microparticle coated microneedle scaffolds for transdermal drug delivery”
3. Merve Sirtikara (2023)  
MS Student  
Research Topic: “Development of polymer-based strain sensors for biomedical”
4. Hatice Karabulut (2022)  
MS Student  
Research Topic: “Research Topic: “Fabrication and characterization of microparticle coated microneedle scaffolds for transdermal drug delivery”
5. Kudret İrem Deniz (2022)  
MS Student  
Research Topic: “Investigation of the potential of Whey Protein/Vitamin E particles coated Whey Protein/PVA nanofibers for the treatment of muscle loss”
6. Muhammet Sefa İzgördü (2022)  
MS Student  
Research Topic: “Production of wound dressing for treatments of burns with 3D printing technology”
7. Songul Ulag (2021)  
PhD Student  
Research Topic: “Research Topic: “Fabrication of 3D printed artificial cornea and supporting the cornea with electrospun nanofiber patch”
8. Sema Tuğçe Aydın (2021)  
MS Student  
Research Topic: “3D printing of nanoparticle and antibiotic-loaded scaffolds for wound dressing applications”

9. Semra Unal Yildirim (2021)  
PhD Student  
Research Topic: "Development of three-dimensional microenvironment to study glioblastoma cell behavior"
10. Sumeyye Cesur (2021)  
PhD Student  
Research Topic: "Microbubble and particle production by microfluidic method for biomedical applications"
11. Hilal Irem Onurlu (2020)  
MS Student  
Research Topic: "Fabrication of nano drug carriers and investigation of drug release in tuberculosis treatment"
12. Aysenur Topsakal (2019)  
MS Student  
Research Topic: "3-D tissue production with fluorescent additive"
13. Necdet Mekki Ergul  
MS Student (2019)  
Research Topic: "Production of hydrogel based tissue scaffolds with 3d bioprinting"
14. Edina Eminagic (2019)  
MS Student  
Research Topic: "3D printed levan scaffolds for cardiac regeneration"
15. Deniz Aki (2019)  
MS Student  
Research Topic: "Production and characterization of hexagonal boron nitride doped three-dimensional scaffolds for bone tissue engineering"
16. Zeynep Ruya Ege (2019)  
PhD Student  
Research Topic: "Production of ICG-loaded polymeric nanofibers and investigation of their controlled release properties"
17. Burak Ozbek (2019)  
MS Student  
Research Topic: "Production of skeletal structures for tissue engineering with the aid of a 3D printer"
18. Sena Su (2019)  
MS Student  
Research Topic: "Characterization and production of biocompatible wound dressing via electrospinning technique"
19. Merve Mine Seker (2019)  
MS Student  
Research Topic: "Investigation of mechanical properties of artificial vessels of different diameters produced by electrospinning method"
20. Gulben Avsar (2018)  
MS Student  
Research Topic: "Fabrication of levan-containing fibrous matrices"
21. Mehmet Onur Aydogdu (2018)  
MS Student  
Research Topic: "Production of tissue hydrogel added scaffolds with 3D bioprinting method"
22. Esra Altun (2018)  
MS Student  
Research Topic: "Production and characterization of tissue scaffold with 3D bioprinting method"
23. Guner Cetin (2017)  
MS Student  
Research Topic: "Evaluation and production of nanofiber antimicrobial membranes using by electrospinning method"
24. Memduh Kagan Keler (2016)  
MS Student  
Research Topic: "The production of biocompatible artificial tissue scaffolds which occurs from biopolymer and bioceramic composites"

**F.3. Interns Advised**

1. Cosmin Codrea (May 2023- Present)  
PhD Student in Universitatea Politehnica din Bucuresti, Romania  
Research Topic: Fabrication and characterization of 3D scaffolds for bone tissue engineering
2. Khadija El Kalaaoui (May 2023- Present)  
Master Student in Hassan II University, Morocco  
Topic: Nanofiber production for biomedical applications
3. Kao-Ling Chang (April 2023- Present)  
Master Student in Tunghai University, Taiwan  
Topic: "Electrospinning for tissue engineering"
4. Khaoula Sebbar (May 2023- Present)  
PhD Student in Hassan II University, Morocco  
Research Topic: 3D printing for biomedical applications
5. Mohammed Khaqan Zia (May 2023- Present)  
Master Student in COMSATS University Islamabad, Pakistan  
Research Topic: 3D printing for wound dressing
6. Sabeero No (September 2022- January 2023)  
PhD Student in University of Isfahan, Isfahan, Iran  
Research Topic: 3D printing for bone tissue engineering
7. Fatmanur Deniz (July 2022- September 2022)  
BS Student in Marmara University, Istanbul, Turkey  
Research Topic: Silk fibroin synthesis and 3D printing techniques
8. Emre Ister (July 2022- October 2022)  
BS Student in Marmara University, Istanbul, Turkey  
Research Topic: Production of scaffolds containing silk fibroin
9. Berke Gultekin (July 2022- October 2022)  
BS Student in Marmara University, Istanbul, Turkey  
Research Topic: Production of scaffolds containing silk fibroin
10. Sevval Gunes (June 2022- September 2022)  
BS Student in Istanbul Medeniyet University, Istanbul, Turkey  
Research Topic: Silk fibroin synthesis and 3D printing techniques
11. Manolya Gezgin (June 2022- August 2022)  
BS Student in Yildiz Technical University, Istanbul, Turkey  
Research Topic: GelMA synthesis for tissue engineering
12. Omer Yilmaz (June 2022- September 2022)  
High School Student in Uskudar American High School, Istanbul, Turkey  
Research Topic: Production of scaffolds containing silk fibroin
13. Josep Jorda (March 2022- June 2022)  
BS Student in Universitat Internacional de Catalunya (UIC), Barcelona, Spain  
Research Topic: 3D printing for wound dressing
14. Arnau Cuesta Puigmal (March 2022- June 2022)  
BS Student in Universitat Internacional de Catalunya (UIC), Barcelona, Spain  
Research Topic: Production of nanofibers for wound dressing
15. Mohamed A. Mohamady Hussein (October 2019- October 2020)  
PhD Student in Clinic of Dermatology, University Hospital of RWTH Aachen, Germany  
Research Topic: Dual-drug delivery of Ag-chitosan nanoparticles and phenytoin via core-shell PVA/PCL electrospun nanofiber

**G. GRANTS (>\$5.0M)**

1. **Agency:** TUBITAK  
**Project Duration:** May 2023- May 2027  
**Amount:** \$3,380.000  
**Role:** PI, 100%  
**Title:** Development of Biomarker and Advanced Technological Warning Systems for Diagnosis, Monitoring and Treatment of Neuron Damage-Related Diseases
2. **Agency:** TUBITAK  
**Project Duration:** May 2023- May 2026  
**Amount:** \$120000  
**Role:** PI,50%  
**Title:** Design and Production of Biomimetic-Biofunctional Tracheal Patches (Tracpatch)
3. **Agency:** TUBITAK  
**Project Duration:** February 2023- August 2024  
**Amount:** \$65,000  
**Role:** PI, 50%  
**Title:** Production of Custom Semblepharon Rings
4. **Agency:** TUBITAK  
**Project Duration:** February 2023- February 2024  
**Amount:** \$75,000  
**Role:** PI, 50%  
**Title:** Production and Characterization of Salicylic Acid Loaded Ker-MA Based Microneedles for Plant Diseases
5. **Agency:** British Council  
**Project Duration:** October 2022- October 2024  
**Amount:** \$30.000 (subcontract amount)  
**Role:** PI of the subcontract, 100%  
**Title:** Turkey-UK 3DI Printing & Digital Innovation
6. **Agency:** TUBITAK  
**Project Duration:** October 2021- April 2024  
**Amount:** \$90.000 (subcontract amount)  
**Role:** PI of the subcontract,50%  
**Title:** Production of Personalized Eardrum Patch Containing Microneedle with Digital Light Processing Method (Tympatch)
7. **Agency:** TUBITAK  
**Project Duration:** September 2021- September 2023  
**Amount:** \$10,000  
**Role:** PI, 50%  
**Title:** Development of Keratin Based Bioink Products for 3D Bioprinting Applications
8. **Agency:** EU Erasmus + project founding  
**Project Duration:** June 2021- May 2023  
**Amount:** 260.000 Euro  
**Role:** PI, 100%  
**Title:** Creating a Virtual Laboratory for Online Teaching
9. **Agency:** TUBITAK  
**Project Duration:** February 2021- August 2023  
**Amount:** \$10,000  
**Role:** PI, 100%  
**Title:** Development of Carbon-Based Nanomaterials Derived from Metal-Organic Cage and Bacterial Cellulose Hybrid Structures for Electrochemical Applications
10. **Agency:** TUBITAK

**Project Duration:** January 2019- April 2021

**Amount:** \$127,043

**Role:** PI, 100%

**Title:** Production and Characterization of Biocompatible Wound Dressing by Electrospinning Method

**11. Agency:** TUBITAK

**Project Duration:** October 2018- September 2022

**Amount:** \$48,000

**Role:** PI, 100%

**Title:** Stent Production and Clinical Application from Biocompatible and Biodegradable Nanocomposite Materials for Bile Anastomosis in Liver Transplantation

**12. Agency:** TUBITAK

**Project Duration:** December 2018- June 2021

**Amount:** \$199,825

**Role:** PI of subcontract, 100%

**Title:** Investigation of Anti-Tumor and Neural Cell Toxicity Response of First-Generation Proteasome Inhibitor Bortezomib and Second-Generation Proteasome Inhibitor Carfilzomib in Glioblastoma Multiforme Three-Dimensional Cell Culture

**13. Agency:** TUBITAK

**Project Duration:** July 2017-June 2019

**Amount:** \$60,000

**Role:** Mentor to Dr. Ravnic, 14.5%

**Title:** Production of Icg Loaded Polymeric Composite Nanofiber by Electrospinning Method and Investigation of Controlled Release Properties

**14. Agency:** TUBITAK

**Project Duration:**

**Amount:** \$25,000

**Role:** PI, 100%

**Title:** 3D-printed double-layer microneedle arrays for the treatment of cutaneous leishmaniasis

**15. Agency:** TUBITAK

**Project Duration:**

**Amount:** \$11,000

**Role:** PI, 100%

**Title:** In vivo Photothermal and Photodynamic Therapy applications on pancreatic cancer with functionalized ICG loaded polymeric nanofiber structures and investigation of the therapy effects by molecular analysis and tissue characterization

- 16. Agency:** TUBITAK  
**Project Duration:** December 2018- June 2021  
**Amount:** \$199,825  
**Role:** PI of subcontract, 100%  
**Title:** Investigation of Anti-Tumor and Neural Cell Toxicity Response of First-Generation Proteasome Inhibitor Bortezomib and Second-Generation Proteasome Inhibitor Carfilzomib in Glioblastoma Multiforme Three-Dimensional Cell Culture
- 17. Agency:** TUBITAK  
**Project Duration:** July 2017-June 2019  
**Amount:** \$60,000  
**Role:** Mentor to Dr. Ravnic, 14.5%  
**Title:** Production of Icg Loaded Polymeric Composite Nanofiber by Electrospinning Method and Investigation of Controlled Release Properties
- 18. Agency:** TUBITAK  
**Project Duration:**  
**Amount:** \$11,000  
**Role:** PI, 100%  
**Title:** In vivo Photothermal and Photodynamic Therapy applications on pancreatic cancer with functionalized ICG loaded polymeric nanofiber structures and investigation of the therapy effects by molecular analysis and tissue characterization
- 19. Agency:** TUBITAK  
**Project Duration:**  
**Amount:** \$25,000  
**Role:** PI, 100%  
**Title:** Sustainable concrete with autonomous self-healing properties for durable infrastructures
- 20. Agency:** TUBITAK  
**Project Duration:**  
**Amount:** \$95,182  
**Role:** PI, 100%  
**Title:** Development of new wound healing agent-enhanced 3D-printed dressing scaffolds based on esters of natural trypenoids

## **H. PROFESSIONAL AND SERVICE ACTIVITIES**

### **J. 1. Editorial Activities**

1. Guest Editor on "Pharmaceutics," Nanomaterials-Based Drug Carriers Systems Approaches (2018-2019)
2. Editorial Board Member, "Journal of Innovative Engineering and Natural Science" (2018- )
3. Editorial Board Member, "AJIT-e" (2018- )
4. Guest Editor on "Polymer," Biomedical Applications of Polymeric Nanofibers (2020- )

### **J. 3. Departmental Service**

1. Scientific Award Committee Member, Metallurgical and Materials Engineering, Marmara University (Fall 2019- Present)
2. Faculty Board Member, Metallurgical and Materials Engineering, Marmara University (Fall 2018- Present)
3. Director of the Center for Nanotechnology & Biomaterials Applications and Research , Metallurgical and Materials Engineering, Marmara University (Fall 2018- Present)
4. Head of Department, Metallurgical and Materials Engineering, Marmara University (Fall 2017- Present)
5. BAP Coordinator, Metallurgical and Materials Engineering, Marmara University (Fall 2018- Present)
6. Deputy Head of Department, Metallurgical and Materials Engineering, Marmara University (Fall 2018- Present)

### **J. 4. Collegiate Service**

1. Member, Sustainability Council (Fall 2019)
2. Engineering Core Course Coordinator, Design for Manufacturing 056:032 (2013-2015)

### **J. 6. Service to Professional Societies**

1. Member, International Scientific Committee, International Conference on Additive Manufacturing Meets Medicine (AMMM) 2020, Lubeck, Germany (TBD).
1. Advisor, Additive Manufacturing Society of India (September 2019-Present).
2. Advisor, Medical AM/3DP Workgroup, ASME (February 2019-Present).
2. Member, International Scientific Committee, Biofabrication 2019, Columbus, OH (October 20-22, 2019).
3. Member, International Scientific Committee, CIMTEC 2020 Progress in 3D Bioprinting of Soft Tissues and Organs, Italy (June 2020).
4. Member, International Scientific Committee, International Conference on Additive Manufacturing Meets Medicine (AMMM) 2019, Lubeck, Germany (September 12-13, 2019).
5. Member, International Scientific Committee, 2nd International Conference on Progress in Additive Manufacturing (Pro-AM 2018), Singapore (May 14-17, 2018).
7. Session Chair, Intelligent Materials and Scaffolds in Medical 3D Printing, 2<sup>nd</sup> International Conference on 3D Printing in Medicine, Mainz, Germany (May 19, 2017).
8. Member, Liver & Pancreas Engineering Committee, New Organ Alliance (January 2017- Present).
9. Member, 3D Bioprinting Roadmap Committee, New Organ Alliance (January 2017- Present).
10. Session Chair, Biofabrication, The 2016 Symposium on Biomaterials Science, Piscataway, NJ (October 2016).
11. Advisory Board Member, 3D Medical Applications Conference, Annapolis, MD (March 2017).
12. Session Chair, Biomaterials for bio-3D printing, World Biomaterials Conference, Montreal, CA (May 2016).
13. Session Moderator, Medical Additive Manufacturing IV, Rapid Conference, Long Beach, CA (May 2015).
14. Member, Medical Additive Workgroup, Society of Manufacturing Engineers (July 2014-February 2019).
15. Session Chair, Vascular Tissue Engineering, Industrial and Systems Engineering Research Conference, Montreal, Canada (May 2014).
16. Session Chair, Biomedical Manufacturing, Industrial and Systems Engineering Research Conference, San Juan, Puerto Rico (May 2013).
17. Session Chair, Bioengineering, CAD Conferences, Niagara Falls, Canada (June 13, 2012).
18. Session Chair, Materials Processing and Manufacturing, Industrial and Systems Engineering Research Conference, Orlando, FL (May 22, 2012).
19. Session Organizer, Medical Devices III, International Mechanical Engineering Congress and Exposition, Denver, Colorado (Nov 11, 2011).
20. Membership of professional societies
  - a. American Society of Mechanical Engineers (ASME)
  - b. Institute of Industrial and Systems Engineers (IISE)
  - c. Tissue Engineering International and Regenerative Medicine Society (TERMIS)
  - d. Alpha Pi Mu Honor Society
  - e. Society of Manufacturing Engineering (SME)
  - f. Association of Reproductive Health Professionals
  - g. Regenerative Medicine Manufacturing Society
  - h. Institute of Electrical and Electronics Engineers (IEEE)

## **J. 7. Reviewer**

### **J. 7.1. Book Proposals**

Elsevier (2015-Present); Springer (2014)

### **J. 7.2. Journals (>50 Journals)**

International Journal of Pharmaceutics (2023-Present); Sustainability (Switzerland) (2023-Present); Journal of Bioactive and Compatible Polymers (2022-Present); Plastic and Reconstructive Surgery (2022-Present); Bioengineering (2022-Present); Biomaterials Advances (2022-Present); Langmuir (2022-Present); Chemosphere (2022-Present); Journal of Drug Delivery Science and Technology (2022-Present); International Journal of Clinical Practice (2022-Present); Cartilage (2021-Present); Nanomaterials (2021-Present); Journal of Craniofacial Surgery (2021-Present); Materials Today Communications (2021-Present); Biomass Conversion And Biorefinery (2021-Present); Applied Sciences-Basel (2021-Present); Pharmaceutics (2021-Present); Polymers for Advanced Technologies (2021-Present); International Journal of Refractory Metals and Hard Materials (2021-Present); International Journal of Nanomedicine (2021-Present); Cellulose (2021-Present); Materials Science and Engineering B-Advanced Functional Solid-State Materials (2020-Present); Materials & Design (2020-Present); Molecules (2020-Present); International Journal of Molecular Sciences (2020-Present); Journal of Pharmaceutical and Biomedical Analysis (2020-Present); Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy (2020-Present); Materials (2020-Present); Infrared Physics and Technology (2020-Present); Polymer Testing (2019-Present); Colloids and Surfaces. B, Biointerfaces (2019-Present); European Polymer Journal (2019-Present); Chemistryselect (2019-Present); Polymers (2019-Present); Colloids and Surfaces B-Biointerfaces (2018-Present);

International Journal of Biological Macromolecules (2018-Present); International Wound Journal (2018-Present); Journal of Biomedical Materials Research Part B-Applied Biomaterials (2018-Present); IEEE Transactions on Nanobioscience (2018-Present); Macromolecular Materials and Engineering (2018-Present); Journal of Food Engineering (2017-Present); Applied Surface Science (2017-Present); Current Organic Chemistry (2017-Present); New Biotechnology (2016-Present); Biochemical Engineering Online (2016-Present); Nanobiomaterials in Dentistry: Applications of Nanobiomaterials, Vol 11, (2016-Present); Acta Physica Polonica A (2015-Present); Current Pharmaceutical Design (2015-Present); Current Topics in Medicinal Chemistry (2015-Present); Journal of the Mechanical Behavior of Biomedical Materials (2014-Present); International Journal Of Polymeric Materials And Polymeric Biomaterials (2014-Present); Journal of Nanomaterials (2014-Present); Current Medicinal Chemistry (2014-Present); Pharmaceutical Research (2013-Present); Carbohydrate Polymers (2012-Present); Materials Science & Engineering C-Materials for Biological Applications (2012-Present); Journal of the Royal Society Interface (2012-Present); Journal of Thermoplastic Composite Materials (2009-Present); International Journal of Artificial Organs (2008-Present); Journal of Composites Materials (2008-Present); Journal of Materials Science (2008-Present); Journal of Craniofacial Surgery (2008-Present); Journal of Materials Science-Materials in Medicine (2007-Present); Materials Letters (2007-Present); Journal of the Australasian Ceramic Society (2006-Present); Key Engineering Materials (2006-Present).

## I. Collaborators

### I.1. Collaborators (Last 5 years)

1. Roger Narayan, Joint Department of Biomedical Engineering, University of North Carolina, Chapel Hill, NC, United States
2. Mohan Edirisinghe, Department of Mechanical Engineering, University College London, Torrington Place, London WC1E 7JE, UK
3. Micheal Bozlar, School of Engineering and Applied Science, Andlinger Center of Energy and the Environment, Princeton University, Princeton, New Jersey, USA
4. Amin Shavandi, BioMatter unit - École polytechnique de Bruxelles, Université Libre de Bruxelles (ULB), Belgium
5. George E. Stan, National Institute of Materials Physics, Magurele, Romania
6. Prof. Jing CHEN, Ningbo Institute of Materials Technology & Engineering, Chinese Academy of Sciences (CAS)
7. Mohamed A. Mohamady Hussein, Clinic of Dermatology, RWTH Aachen University Hospital, Aachen, Germany
8. Carlos M. Pereira, Centro de Investigação em Química da Universidade do Porto, Porto, Portugal
9. Mohammad Morid Haidari Department of Pharmacology, Faculty of Pharmacy, Marmara University, Istanbul, Turkey
10. Deepak M Kalaskar, UCL Division of Surgery and Interventional Science, University College London, UK
11. Manuel Pedro F Graça, I3N and Physics Department, University of Aveiro, Aveiro, Portugal
12. Denisa Ficai, Department of Inorganic Chemistry, Physical Chemistry and Electrochemistry, University Politehnica of Bucharest, Bucharest, Romania
13. Anton Ficai, Department of Science and Engineering of Oxide Materials and Nanomaterials University Politehnica of Bucharest, Bucharest, Romania
14. Alireza Valanezhad, Department of Dental and Biomedical Materials Science, Nagasaki University Graduate School of Biomedical Science, Nagasaki, Japan Department of Materials Science and Engineering
15. Besim Ben Nissan, Faculty of Science, School of Life Sciences, University of Technology Sydney, Broadway, Australia
16. Innocent J. Macha, Department of Mechanical and Industrial Engineering, University of Dar Es Salaam, Dar es Salaam, Tanzania
17. Ewa Kijenska-Gawronska, Centre for Advanced Materials and Technologies CEZAMAT, Warsaw University of Technology Warsaw, Poland
18. Jing Chen, Zhejiang Engineering Research Center for Biomedical Materials, Cixi Institute of Biomedical Engineering, Chinese Academy of Sciences, China
19. Vijay Kumar Thakur, School of Engineering, University of Petroleum and Energy Studies (UPES), Dehradun, India
20. Roxana Trusca, Department of Science and Engineering of Oxide Materials and Nanomaterials, Faculty of Applied Chemistry and Materials Science, University Politehnica of Bucharest, Bucharest, Romania
21. Pradip Paik, Department of Biomedical Engineering, Indian Institute of Technology, Banaras Hindu University, Varanasi, India
22. Jorge Carvalho Silva, Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, Caparica, Portugal
23. Tomohiko Yoshioka, Graduate School of Interdisciplinary Science and Engineering in Health Systems, Okayama University, Okayama, Japan
24. Dilshat Tulyaganov, Turin Polytechnic University in Tashkent, Tashkent, Uzbekistan
25. Fakhra Ikram, Interdisciplinary Research Centre in Biomedical Materials, COMSATS University Islamabad, Lahore, Pakistan
26. Ibrahim Tarik Ozbolat, Department of Biomedical Engineering and Engineering Science and Mechanics, Penn State University, PA, United States
27. Simeon Agathopoulos, Department of Materials Science and Engineering, University of Ioannina, Ioannina, Greece
28. Chi-Chang Lin, Department of Materials Science and Engineering, Tunghai University, Taiwan
29. Roman A. Perez, Department of Bioengineering, Universitat Internacional de Catalunya, Barcelona, Spain
30. Christophe Egles, Department of Bioengineering, Université de Rouen Normandie, France

