SHARON FLEISCHER, PhD

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EDUCATION

Doctor of Philosophy 2017
Faculty of Life Sciences, Tel-Aviv University, Israel

Master of Science 2013
Faculty of Life Sciences, Tel-Aviv University, Israel

Bachelor of Science, Biotechnology 2011
Faculty of Life Sciences, Tel-Aviv University, Israel

ACADEMIC RESEARCH EXPERIENCE

Columbia University | New York, NY 2017-present
Postdoctoral Research Scientist | Advisor: Gordana Vunjak-Novakovic, PhD

- Rothschild Postdoctoral Fellow
- Designing advanced cardiac tissue models to study human cardiac patho(physiology)

Tel-Aviv University | Tel-Aviv, Israel 2011-2017
Graduate Researcher | Advisor: Tal Dvir, PhD

- Adams Doctoral Fellow
- Direct Ph.D program
- Developed methodologies for engineering large-scale and transplantable cardiac tissues

TEACHING EXPERIENCE

Tel-Aviv University | Tel-Aviv, Israel 2012-2016
Supervisor of Teaching Assistants, Molecular Biology Laboratory Class

Tel-Aviv University | Tel-Aviv, Israel 2011-2012
Teaching Assistant, Molecular Biology Laboratory Class

Yeda Plus-MBA Center Group| Tel-Aviv, Israel 2008-2012
SAT and GRE instructor

HONORS AND AWARDS

Elected Columbia Uni. & John Hopkins Uni. Rising Star in Engineering in Medicine 2021
Rothschild Postdoctoral Fellowship 2017
Weizmann Institute Postdoctoral Award for Advancing Women in Science 2017
VATAT Postdoctoral Award for Advancing Women in Science 2017
Ruth Arnon Postdoctoral Award for Advancing Women in Science 2017
Rappaport Award for Excellence in Biomedical Research 2017
Na'amat Award for Excellence in Medical research 2016
Dean's Award for Outstanding Performance in Research 2015
First Prize for Best Presentation. Adams Fellowship Annual Conference. 2015
The Israel Academy of Sciences and Humanities Adams Fellowship 2014
Tel-Aviv Uni. Center for Nanoscience and Nanotechnology - Travel award 2014
TERMIS Travel Award 2014
Israel Ministry of Science "Women in Science" Scholarship 2013

Dean's Award for Outstanding Performance in Teaching Assistance 2013

First Prize for Best Presentation. The Fred Chaoul Nanoscience Annual Meeting 2013

PUBLICATIONS

1. Tavakol N.D*., **Fleischer S***., Falucci T*., Graney P*., Halligan S., Kaplan D., and Vunjak-Novakovic G. Emerging Trajectories for Next Generation Tissue Engineers. *ACS Biomaterials Science & Engineering*. 2021.
2. Tamargo M*., Nash R.T*., **Fleischer S***., Kim, Y., Villa O.F., Zhao Y., Chavez M., Costa T., Lock R., and Vunjak-Novakovic G. milliPillar: An open-source technology for the fabrication and assessment of iPSC-derived engineered cardiac tissues. *ACS Biomaterials Science & Engineering*. 2021.
3. Lock R., Al Asafen H., **Fleischer S.,** Tamargo M., Zhao Y., Radisic M., and Vunjak-Novakovic G. A framework for engineering sex-specific cardiac tissue models. *Nature Reviews Materials*. 2021.
4. Tavakol N.D., **Fleischer S**., Vunjak-Novakovic G. Harnessing Organs-on-a-chip to model tissue regeneration. *Cell Stem Cell*. 2021.
5. **Fleischer S.,** Tavakol N.D., Vunjak-Novakovic G. From Arteries to Capillaries: Approaches to Engineering Human Vasculature. *Advanced Functional Materials*. 2020. *(Highlighted on the cover)*
6. Gartshteyn Y., Tamargo M., **Fleischer S**., Kapoor T., Li J., Askanase A., Winchester R., Geraldino-Pardilla L. Endomyocardial biopsies in the diagnosis of myocardial involvement in systematic lupus erythematous. *Lupus*. 2020.
7. Arvatz, S., Wertheim L., **Fleischer S**., Shapira A., Dvir T. Channeled ECM-Based ECM Nanofibrous Hydrogel for Engineering Vascularized Cardiac Tissues. *Nanomaterials*. 2019
8. Nudelman R., Alhmoud H., Delalat B., **Fleischer S.**, Fine E., Guliakhmedova T., Elnathan R., Nyska A., Voelcker N.H., Gozin M., Richter S. Jellyfish-Based Smart Wound Dressing Devices Containing In-Situ Synthesized Antibacterial Nanoparticles. *Advanced Functional Materials*. 2019.
9. **Fleischer S**., Vunjak-Novakovic G. Cardiac Tissue Engineering: From Repairing to Modeling the Human Heart. *Encyclopedia of TERM (Elsevier)*. 2019.
10. Guterman T., Ing L.N., **Fleischer S**., Rehak P., Basavalingappa, V., Dvir T., Hochbaum I.A, Gazit E. Electrical conductivity, selective adhesion, and biocompatibility in bacteria-inspired peptide-metal self-supporting nanocomposites. *Advanced Materials*. 2019.
11. Edri R., Gal I., Noor N., Harel T., **Fleischer S**., Adadi N., Green O., Shabat D., Heller L., Shapira A., Peer D., Dvir T. Personalized hydrogels for engineering diverse fully autologous tissue implants. *Advanced Materials*. 2019.
12. Feiner R*., **Fleischer S***., Kalish Or., Shapira A., Tal, D. Multifunctional biodegradable electronic scaffolds for cardiac tissue engineering. *Journal of Controlled Release*. 2018
13. Malki M*., **Fleischer S***., Shapira A., Dvir T. Gold Nanorod-Based engineered cardiac patch for suture free engraftement by near IR. *Nano letters*. 2018. *(Highlighted on the cover)*.
14. **Fleischer S.,** Feiner R., Dvir T. Cutting-edge platforms in cardiac tissue engineering. *Current Opinion in Biotechnology*. 2017.
15. **Fleischer S*.,** Feiner R*., Dvir T. Cardiac tissue engineering; From matrix design to engineering bionic hearts. *Regenerative Medicine*. 2017.
16. **Fleischer S.**, Shapira A., Feiner R., Dvir T. Modular assembly of thick multifunctional cardiac patches. *PNAS*. 2017.

17. Feiner R., Engel L., **Fleischer S.**, Malki M., Shapira A., Shacham-Diamand Y., Dvir T. Engineered hybrid cardiac patches with multifunctional electronics for online monitoring and regulation of tissue function. *Nature Materials*. 2016.
18. **Fleischer S.**, Miller J., Hurowitz H., Shapira A., Dvir T. Effect of fiber diameter on the assembly of functional 3D cardiac patches. *Nanotechnology*. 2015.
19. Shevach, M., Zax, R., Abrahamov, A., **Fleischer, S.**, Shapira, A., Dvir, T. Omentum ECM-based hydrogel as a platform for cardiac cell delivery. *Biomedical Materials*. 2015.
20. **Fleischer S***., Feiner R*., Shevach M*., Dvir T. Coiled fiber scaffolds embedded with gold nanoparticles improve the performance of engineered cardiac tissues. *Nanoscale*. 2014. *(Highlighted on the cover).*
21. Shevach M., **Fleischer S.**, Shapira A., Dvir T. Gold nanoparticle-decellularized matrix hybrids for cardiac tissue engineering. *Nano letters*. 2014.
22. Shevach M., Soffer-Tsur N., **Fleischer S.**, Shapira A., Dvir T. Fabrication of omentum-based matrix for engineering vascularized cardiac tissues. *Biofabrication*. 2014.
23. **Fleischer S.**, Shapira A., Regev O., Nseir N., Zussman E., Dvir T. Albumin fiber scaffolds for cardiac tissue engineering. *Biotechnology and Bioengineering*. 2014. *(Highlighted on the cover).*
24. **Fleischer S.,** Feiner R., Shapira A., Ji J., Sui X., Wagner H.D, Dvir T. Spring-like fibers for cardiac tissue engineering. *Biomaterials*. 2013.
25. **Fleischer S.,** Dvir T. Tissue engineering on the nanoscale: lessons from the heart. *Current Opinion in Biotechnology*. 2013.

PATENTS

Patterned Electrospun Fibers for Tissue Engineering.	**2019**
A light Activated Platform to Control Blood Vessel Permeability. Provisional.	**2020**
A human Engineered Cardiac Tissue Platform. Provisional.	**2021**