Jordan S. Miller, Ph.D.

Houston, TX 77004 jrdnmlr@gmail.com

Education

Year	Degree/Position	Institution	Mentor
2003	B.S. Biology	Massachusetts Institute of Technology	Ioannis V. Yannas, Ph.D.
2008	Ph.D. Bioengineering	Rice University	Jennifer L. West, Ph.D.
2008-2013	Post-Doctoral Fellow	University of Pennsylvania	Christopher S. Chen, M.D., Ph.D.

Professional Experience

2025 – current. Consulting.

2025 – completed non-compete time period.

2021 – current. Adjunct Associate Professor of Bioengineering. Rice University, Houston, TX

2021 – 2024. SVP, Chief Scientist for Regenerative Medicine. 3D Systems, Houston, TX

2021 — Associate Professor of Bioengineering. Rice University, Houston, TX

2018 – 2021. Co-Founder and President. Volumetric, Houston, TX (acquired by 3D Systems in a $400M deal)

2013 – 2021. Assistant Professor of Bioengineering. Rice University, Houston, TX

Awards and Honors

2019 — Outstanding Doctoral Alumnus Award, Department of Bioengineering, Rice University

2019 — Kavli Fellow, US National Academy of Sciences

2018 — Teaching Award, Department of Bioengineering, Rice University

2017 — Emerging Investigator, *Biomaterials Science*

2017— Best Lecture Award, *2nd International Conference on 3D Printing in Medicine*, Mainz, Germany

2014 — Rice University Brown Foundation Teaching Award

2014 — Finalist, MIT TR35 Award, *MIT Technology Review*

2014 — IBB Hamill Innovations Award

2013 — John S. Dunn Collaborative Research Award

2012 — Core Developer: RepRap Open Source 3D Printer

2010 — NIH NRSA Post-Doctoral Fellowship, NHLBI, Grant Number F32HL099031

2008 — Hartwell Foundation Fellow, University of Pennsylvania

2008 — Hugh Scott Cameron Service Award, Rice University

2007 — NIH NRSA Pre-Doctoral Fellowship, NIBIB, Grant Number F31EB005558

2007 — Morse Fellowship, Institute of Biosciences and Bioengineering, Rice University

2007 — Graduate Student Association Service Award, Rice University

2007 — 1st Place Poster Award, 5th Annual Bioengineering Poster Competition, Rice University

2007 — Hilda Rich Circle of Giving Award, Rice University

2006 — 1st Place Poster Award, NIH NIBIB Biotechnology Training Grant Student Poster Competition, Rice University

2005 — Bioprintist Award. Second International Bioprinting, Biopatterning, and Bioassembly Workshop, Charleston, SC

2004 — Whitaker Foundation Student Abstract Competition Award. Houston Society for Engineering and Medicine in Biology, Houston, TX

2003 — Provost's Scholar, Department of Bioengineering, Rice University

Professional Service

Editorial Review Board

Scientific Reports, Frontiers, Journal of 3D Printing in Medicine, HardwareX.

Scientific Peer-Review

Nature Communications, Nature Chemical Engineering, Advanced Materials, Advanced Functional Materials, Proceedings of the National Academy of Sciences (PNAS), Science Advances, Lab on a Chip, Biomaterials, Nature Protocols, Scientific Reports, PLOS Biology, PLOS ONE, Biofabrication, ACS Biomaterials Science and Engineering, Microvascular Research, Acta Biomaterialia, Biomaterials Science, Journal of Biomaterials Research, Journal of Materials Chemistry, RSC Advances, Soft Matter, Optical Materials Express, PeerJ.

Grant Review Panels

2015-08-01: Grant Review Panel for Israeli Ministry of Science, Technology and Space

2016-04-01: BBSRC UK Grant Review Panel

2016-04-15: NSF Manufacturing, Machines, and Equipment (MME) Grant Review Panel P161811

2016-05-31: NSF/FDA Scholar-in-Residence Review Panel P162177

2016-07-11: NIH NICHD Grant Review Panel

National and International Service

BioMedical Engineering Society (BMES) Diversity Committee 2016–2019

Rice University Committees

University Level

2013–2015: Rice BRC Vivarium Committee

2017–present: Rice University Commencement Committee

2018–present: School of Engineering Committee on Diversity, Equity, and Inclusion (CDEI)

2019–present: Chair, School of Engineering Subcommittee on Diversity Awareness

Department Level

2013–2015: Rice Bioe Colloquia Committee

2015–2016: Rice Bioe Graduate Academic Affairs Committee (GAAC)

2015–2019: Rice Bioe Undergraduate Curriculum Committee

2015–present: Rice Bioe Awards Committee

2019–present: Rice Bioe PhD Admissions Committee

Professional Societies

American Chemical Society (ACS)

BioMedical Engineering Society (BMES)

Society for Biomaterials (SFB)

American Heart Association (AHA)

American Academy for the Advancement of Science (AAAS)

Student Group Advising

2014 — 2018: Faculty Sponsor for Rice Trew Friends – organ donation student group network

2017 — present: Faculty Sponsor for Rice OSTEM – Out in Science, Technology, Engineering, and Mathematics

Spring 2013: Faculty Mentor for Bioe 252, Bioengineering Fundamentals

Spring 2013: Technical advisor for two Rice ENGI 120 undergraduate teams.

Scientific Meeting Session Chair

Session Co-Chair: Biomechanics, BMES 2013

Session Co-Chair: Tissue Fabrication, BMES 2015

Session Co-Chair: World Biomaterials Congress 2016, Open-source and low-cost tools and technologies for advanced biomaterials fabrication

Editorial Work for Journal Special Issue

2016 — Co-Editors: Jordan S. Miller and Jason A. Burdick. ACS Biomaterials Science & Engineering, "3D Bioprinting".

2017 — Co-Editors: Jordan S. Miller and Adam W. Feinberg. MRS Bulletin, "3D Bioprinting and Organ-on-a-Chip".

Outreach

2014 — Alief Science Fair Judge, grades 9-12

2015 — advisor for Kashmere STEM Scholar

2016 — advisor for Clements High School Scholar

Selected Peer-reviewed Publications

H-index: 32 (Google Scholar 06/2025)

Citations: 9,310 (Google Scholar 06/2025)

1. Galván NTN, Paulsen SJ, Kinstlinger IS, Marini JC, Didelija IC, Yoeli D, Grigoryan B, **Miller JS**. Blood Flow Within Bioengineered 3D Printed Vascular Constructs Using the Porcine Model. *Front Cardiovasc Med*. 2021 Jun 7;8:629313. doi: 10.3389/fcvm.2021.629313.

2. Paulsen SJ, Mitcham TM, Pan CS, Long J, Grigoryan B, Sazer DW, Harlan CJ, Janson KD, Pagel MD, **Miller JS**, Bouchard RR. Projection-based stereolithography for direct 3D printing of heterogeneous ultrasound phantoms. *PLoS One*. 2021 Dec 9;16(12):e0260737. doi: 10.1371/journal.pone.0260737.

3. Woodfield TBF, Moroni L, **Miller JS**. Biophysics of biofabrication**.** *APL Bioengineering*. 2021 Aug 02; 5, 030402. doi: 10.1063/5.0057459.
4. Grigoryan B, Sazer DW, Avila A, Albritton JL, Padhye A, Ta AH, Greenfield PT, Gibbons DL, **Miller JS**. Development, characterization, and applications of multi-material stereolithography bioprinting. *Scientific Reports*. 2021 Feb 04; 11:3171. doi: 10.1038/s41598-021-82102-w.
5. Kinstlinger IS, Saxton SH, Calderon GA, Ruiz KV, Yalacki DR, Deme PR, Rosenkrantz JE, Louis-Rosenberg JD, Johansson F, Janson KD, Sazer DW, Panchavati SS, Bissig K-D, Stevens KR, **Miller JS**. Generation of model tissues with dendritic vascular networks via sacrificial laser-sintered carbohydrate templates. *Nature Biomedical Engineering*. 2020 Jun 29; 4, 916-932. doi: 10.1038/s41551-020-0566-1.
6. Bouhrira N, DeOre BJ, Sazer DW, Chiaradia Z, **Miller JS**, Galie PA. Disturbed flow disrupts the blood-brain barrier in a 3D bifurcation model. *Biofabrication*. 2020 Feb 27;12(2):025020. doi: 10.1088/1758-5090/ab5898. PMID: 31739299

7. Grigoryan B[#], Paulsen SJ[#], Corbett DC[#], Sazer DW, Fortin CL, Zaita AJ, Greenfield PT, Calafat NJ, Gounley JP, Ta AH, Johansson F, Randles A, Rosenkrantz JE, Louis-Rosenberg JD, Galie PA, Stevens KR*, **Miller JS***. Multivascular networks and functional intravascular topologies within biocompatible hydrogels. *Science*. 2019 May 3;364(6439):458-464. doi: 10.1126/science.aav9750. [#]Equal Contribution. ***Corresponding Authors.**
8. Padhye A, Ungewiss C, Fradette JJ, Rodriguez BL, Albritton JL, **Miller JS**, Gibbons DL. A novel *ex vivo* tumor system identifies Src-mediated invasion and metastasis in mesenchymal tumor cells in non-small cell lung cancer. *Scientific Reports*. 2019; 9:4819. DOI: 10.1038/s41598-019-41301-2.
9. Calderon GA, Thai P, Hsu CW, Grigoryan B, Gibson SM, Dickinson ME, **Miller JS**. Tubulogenesis of co-cultured human iPS-derived endothelial cells and human mesenchymal stem cells in fibrin and gelatin methacrylate gels. *Biomater Sci*. 2017 Jul 25;5(8):1652-1660. doi: 10.1039/c7bm00223h. PubMed PMID: 28661522.
10. Feinberg AW, **Miller JS.** Progress in three-dimensional bioprinting. *MRS Bulletin*. 2017; 42(8): 557-562. DOI: 10.1557/mrs.2017.166
11. Albritton JL, **Miller JS**. 3D bioprinting: improving in vitro models of metastasis with heterogeneous tumor microenvironments. *Dis Model Mech*. 2017 Jan 1;10(1):3-14. doi: 10.1242/dmm.025049. PMID: 28067628; PMCID: PMC5278522. DOI: 10.1242/dmm.025049
12. **Miller JS**, and Burdick JA. Editorial: Special Issue on 3D Printing of Biomaterials. *ACS Biomater. Sci. Eng.* 2016; 2, 1658–1661. doi:10.1021/acsbiomaterials.6b00566
13. Kinstlinger IS, **Miller JS**. 3D-printed fluidic networks as vasculature for engineered tissue. *Lab on a Chip*. 2016 May 24;16(11):2025-43. doi: 10.1039/c6lc00193a. PubMed PMID: 27173478. DOI: 10.1039/c6lc00193a
14. Kinstlinger IS, Bastian A, Paulsen SJ, Hwang DH, Ta AH, Yalacki DR, Schmidt T, **Miller JS**. Open-Source Selective Laser Sintering (OpenSLS) of Nylon and Biocompatible Polycaprolactone. **PLoS One.** 2016 Feb 3;11(2):e0147399. doi: 10.1371/journal.pone.0147399.
15. Albritton JL, Roybal JD, Paulsen SJ, Calafat NJ, Flores-Zaher JA, Farach-Carson MC, Gibbons DL, and **Miller JS**. Ultrahigh-throughput generation and characterization of cellular aggregates in laser-ablated microwells of poly(dimethylsiloxane). **RSC Advances**. 2016 Jan 12; 6(11):8980–8991.
16. Sooppan R, Paulsen SJ, Han J, Ta AH, Dinh P, Gaffey AC, Venkataraman C, Trubelja A, Hung G, **Miller JS*,**

Atluri P*. In Vivo Anastomosis and Perfusion of a Three-Dimensionally-Printed Construct Containing Microchannel Networks. **Tissue Eng Part C Methods.** 2016 Jan;22(1):1-7. doi: 10.1089/ten.TEC.2015.0239. ***Corresponding Authors.**

17. Kim MP, Ta AH, Ellsworth WA 4th, Marco RA, Gaur P, **Miller JS**. Three dimensional model for surgical planning in resection of thoracic tumors. **Int J Surg Case Rep.** 2015;16:127-9. doi: 10.1016/j.ijscr.2015.09.037.
18. Paulsen SJ, **Miller JS.** "Tissue vascularization through 3D printing: Will technology bring us flow?" **Dev Dyn.** 2015 May;244(5):629-40. doi: 10.1002/dvdy.24254. PMID: 25613150
19. Trachtenberg JE, Mountziaris PM, **Miller JS,** Wettergreen M, Kasper FK, Mikos AG. "Open-source three-dimensional printing of biodegradable polymer scaffolds for tissue engineering." **J Biomed Mater Res Part A**. 2014 Dec;102(12):4326-35. PMID: 25493313.
20. **Miller JS.** "The billion cell construct: will three-dimensional printing get us there?" **PLOS Biology**. 2014 Jun 17;12(6):e1001882. doi: 10.1371/journal.pbio.1001882.
21. Stevens KR, **Miller JS,** Blakely BL, Chen CS, Bhatia SN. "Degradable hydrogels derived from PEG-diacrylamide for hepatic tissue engineering." **J Biomed Mater Res A.** 2015 Apr 7. doi: 10.1002/jbm.a.35478 PMID: 25851120.
22. Atluri P, **Miller JS**, Emery RJ, Hung G, Trubelja A, Cohen JE, Lloyd K, Han J, Gaffey AC, MacArthur JW, Chen CS, Woo YJ. "Tissue Engineered, Hydrogel-Based Endothelial Progenitor Cell Therapy Robustly Revascularizes Ischemic Myocardium and Preserves Ventricular Function", **The Journal of Thoracic and Cardiovascular Surgery**. 2014 Sep;148(3):1090-7; discussion 1097-8. doi: 10.1016/j.jtcvs.2014.06.038.
23. Magaraci MS, Veerakumar A, Qiao P, Amurthur A, Lee JY, **Miller JS***, Goulian M, and Sarkar CA* . "Engineering Escherichia coli for light-activated cytolysis of mammalian cells." **ACS Synthetic Biology**. 2014 Dec 19;3(12):944-8. doi: 10.1021/sb400174s. ***Corresponding Authors.**
24. Baranski JD, Chaturvedi RR, Stevens KR, Carvahlo B, Solorzano RD, Yang MT, **Miller JS,** Bhatia SN, Chen CS. "Geometric control of vascular networks to enhance engineered tissue integration and function." **Proc Natl Acad Sci U S A**. 2013 May 7;110(19):7586-91.
25. Legant WR, Choi CK, **Miller JS,** Shao L, Gao L, Betzig E, Chen CS. "Multidimensional traction force microscopy reveals out-of-plane rotational moments about focal adhesions." **Proc Natl Acad Sci U S A.** 2013 Jan 15;110(3):881-6.
26. **Miller JS,** Stevens KR, Yang MT, Baker BM, Nguyen DH, Cohen DM, Toro E, Chen AA, Galie PA, Yu X, Chaturvedi R, Bhatia SN, Chen CS. "Rapid casting of patterned vascular networks for perfusable engineered three-dimensional tissues." **Nature Materials.** 2012 Aug;11(9):768-74.
27. Neetu Singh, Amrita Karambelkar, Luo Gu, Kevin Lin, **Miller JS**, Chen CS, Sailor MJ, Bhatia SN. "Bioresponsive mesoporous silica nanoparticles for triggered drug release." **J Am Chem Soc**. 2011 Dec 14;133(49):19582-5.
28. Slater JH, **Miller JS**, Yu SS, West JL. "Fabrication of Multifaceted Micropatterned Surfaces with Laser Scanning Lithography." **Adv Funct Mater.** 2011 May; 21(15):2876-2888.
29. Shen CJ, Raghavan S, Xu Z, Baranski JD, Yu X, Wozniak MA, **Miller JS,** Gupta M, Buckbinder L, Chen CS. Decreased cell adhesion promotes angiogenesis in a Pyk2-dependent manner. **Exp. Cell Res.** 2011 Aug.;317(13):1860–1871.
30. Legant WR, **Miller JS,** Blakely BL, Cohen DM, Genin GM, Chen CS. "Measurement of mechanical tractions exerted by cells in three-dimensional matrices." **Nat Methods.** 2010 Dec.;7(12):969–971.
31. Cuchiara MP, Allen ACB, Chen TM, **Miller JS,** West JL. "Multilayer microfluidic PEGDA hydrogels." **Biomaterials.** 2010 Jul.;31(21):5491–5497.

32. **Miller JS,** Shen CJ, Legant WR, Baranski JD, Blakely BL, Chen CS. "Bioactive Hydrogels Made from Step-Growth Derived PEG-Peptide Macromers." **Biomaterials.** 2010;31(13): 3736-43.
33. Lee SH, Moon JJ, **Miller JS,** West JL. "Poly(ethylene glycol) hydrogels conjugated with a collagenase-sensitive fluorogenic substrate to visualize collagenase activity during three-dimensional cell migration." **Biomaterials.** 2007 Jul; 28(20):3163-70.
34. Hahn MS, **Miller JS,** West JL. "Three-dimensional biochemical and biomechanical patterning of hydrogels for guiding cell behavior." **Advanced Materials.** 2006 Oct; 18(20):2679-84.
35. **Miller JS,** Béthencourt MI, Hahn M, Lee TR, West JL. "Laser-scanning lithography (LSL) for the soft lithographic patterning of cell-adhesive self-assembled monolayers." **Biotechnol Bioeng.** 2006 Apr 20; 93(6):1060-8.
36. Hahn MS, **Miller JS,** West JL. "Laser scanning lithography for surface micropatterning on hydrogels." **Advanced Materials.** 2005 Dec 16; 17(24):2939-42.
37. Lee SH, **Miller JS,** Moon JJ, West JL. "Proteolytically degradable hydrogels with a fluorogenic substrate for studies of cellular proteolytic activity and migration." **Biotechnol Prog.** 2005 Nov-Dec; 21(6):1736-41.
38. Chang E,* **Miller JS,*** Sun J,* Yu WW, Colvin VL, Drezek R, West JL. "Protease-activated quantum dot probes." **Biochem Biophys Res Commun.** 2005 Sep 09; 334(4):1317-21. *Equal Contribution.

Book Chapters

39. Navarro J, Calderon GA, **Miller JS**, Fisher JP. Bioinks for 3D Printing in Regenerative Medicine. A chapter in Principles of Regenerative Medicine, 3rd Edition; edited by Anthony Atala, Robert Lanza, & Antonios G. Mikos. *In Press.*
40. Sazer DW, **Miller JS**. Vascular Networks Within 3D Printed and Engineered Tissues. A chapter in 3D Printing and Biofabrication. 2017. DOI: 10.1007/978-3-319-40498-1_23-1.
41. Grigoryan B, **Miller JS.** "3D Printing and Patterning Vasculature in Engineered Tissues." A chapter in 3D Bioprinting and Nanotechnology in Tissue Engineering and Regenerative Medicine, edited by Lijie Grace Zhang and John P. Fisher. Published, Elsevier, 2014.
42. **Miller JS**, West JL. "Rapid Prototyping of Hydrogels to Guide Tissue Formation." A chapter in Bio-Materials and Prototyping Applications in Medicine, edited by Paulo Bártolo and Bopaya Bidanda. Springer, New York: 2008.
43. **Miller JS**, West JL. "Biomimetic Hydrogels to Support and Guide Tissue Formation." A chapter in Micro- and Nano-engineering of the Cellular Microenvironment, edited by Ali Khademhosseini, Mehmet Toner, Shuichi Takayama, and Jeffrey Borenstein. Artech House: 2008.

Patents

1. **2009 – PCT/US2010/024457** Fabrication of interconnected model vasculature.
2. **2012 – US20120202263A1** Bioactive Macromers and Hydrogels and Methods for Producing Same
3. **2015 – PCT/US2018/0002658** Hypothermic 3d bioprinting of living tissues supported by perfusable vasculature
4. **2017 – US20220267153A1** Methods of fabricating laser-induced graphene and compositions thereof
5. **2017 – US11970399B2** Three-dimensional (3D) printing of graphene materials
6. **2020 – US20220257827A1** Additive manufacturing of vinyl, photocrosslinkable polymers
7. **2020 – US20200339925A1** Multivascular networks and functional intravascular topologies within

biocompatible hydrogels

8. **2020 – US20210115381A1** Thermofluidics for spatial control of gene activation
9. **2021 – US20230219289A1** Methods of fabricating laser-sintered carbohydrate materials and compositions and uses thereof
10. **2021 – US20210348104A1** Microcosm bio-scaffold and applications thereof
11. **2022 – US20220333050A1** Interfacial seeding of cells and particles on surfaces for diagnostics and therapeutics
12. **2022 – US20230095466A1** Manifolds, systems and methods for conducting biological studies under flow
13. **2022 – US20220378570A1** Vascular casting and applications thereof
14. **2022 – US20220339858A1** Systems and methods for layer leveling in large-area microstereolithography
15. **2022 – US20220339882A1** Systems and methods for performing optically calibrated large-area microstereolithography
16. **2024 – US20240286361A1** Methods of calibration of a stereolithography system

Teaching Activities

Year	Course #	Title of Course	Scope	Enrollment	Fraction
S 2014	BIOE 519	Biomaterials	Graduate	16	100%
S 2014	BIOE 699	Graduate Seminar	Graduate	53	50%
F 2014	BIOE 421/521	Microcontroller Applications	Undergrad/	16	100%
F 2014	BIOE 699	Bioengineering Colloquia	Graduate	70	50%
S 2015	BIOE 519	Biomaterials Synthesis	Graduate	26	100%
S 2015	BIOE 699	Bioengineering Colloquia	Graduate	48	50%
F 2015	BIOE 421/521	Microcontroller Applications	Undergrad/	16	100%
S 2016	BIOE 519	Biomaterials Synthesis	Graduate	24	100%
F 2016	BIOE 421/521	Microcontroller Applications	Undergrad/	23	100%
S 2017	BIOE 519	Biomaterials Synthesis	Graduate	14	100%
F 2017	BIOE 421/521	Microcontroller Applications	Undergrad/	18	100%
S 2018	BIOE 519	Biomaterials Synthesis	Graduate	18	100%
S 2019	BIOE 519	Biomaterials Synthesis	Graduate	25	100%

Invited Guest Lectures

Miller JS. April 21, 2016. "Fabrication of 3D tissue with perfusable vasculature", University of Pennsylvania, Department of Bioengineering, BE 558: Principles of Biological Fabrication; Main Instructor: Brian Chow.

Past Trainees

Postdocs

Dr. A. Kristen Means 2019–2021

PhD Students

Ian Kinstlinger Ph.D. Bioengineering 2020

2014 Honorable Mention, NSF GRFP
2015 Outstanding Teaching Assistant for Transport Phenomena
2016 RoosterBio Travel Award for World Biomaterials Congress
2016 Smalley-Curl Institute Travel Award, SCI Transdisciplinary Symposium
2016 Texas Biomaterials Day, Best Rapid-Fire Talk
2016 Outstanding Teaching Assistant for Thermodynamics
2016 Outstanding Rapid-Fire Talk Award, Texas Biomaterials Day
2017 Robert Lowry Patten award for outstanding service to the GSA
2018 NIH NHLBI **F31 NRSA Research Fellowship, Award #HL140905**
2018 Outstanding presenter award, Bioengineering Innovation Symposium
2018 2016 Smalley-Curl Institute Travel Award, SCI Transdisciplinary Symposium

Daniel Sazer Ph.D. Bioengineering 2020

2016 Honorable Mention, NSF GRFP
2016 First Place Poster Award, Rice Bioe Innovation Symposium
2016 NSF IGERT Neuroengineering **Training Grant Fellowship (Grant #1250104)**
2017 Best Poster Award, Rice Bioe Innovation Symposium
2018 2nd Place - Texas Medical Center Biodesign Hackathon

Kevin Janson Ph.D. Bioengineering 2023

2019 Outstanding presenter award, Bioengineering Innovation Symposium

Maddy Royse Ph.D. Bioengineering 2024

Samantha Paulsen Ph.D. Bioengineering 2018

2015 Trainee Speaker Award, Gulf Coast Consortia Regenerative Medicine Symposium
2015 Outstanding Service Award, Department of Bioengineering
2016 Grand Prize Winner: 90 second Thesis Competition, Graduate Studies, Rice University
2016 Nettie S. Autrey Fellowship, Rice University
2016 Smalley-Curl Institute Travel Award, SCI Transdisciplinary Symposium
2016 NIH NHLBI **F31 NRSA Research Fellowship, Award #HL134295**
Successive Position: Product Engineer, GE Life Sciences

Jacob Albritton M.S. Bioengineering 2018

Successive Position: Contractor, Alcon

Bagrat Grigoryan Ph.D. Bioengineering 2019

2013 NSF Graduate Research Fellowship
2019 Department of Bioengineering Best Thesis Award
Successive Position: Co-Founder, Volumetric

Gisele Calderon Ph.D. Bioengineering 2019

2014 NSF Graduate Research Fellowship
2016 People's Choice Award Winner: 90 second Thesis Competition, Graduate Studies, Rice University
2016 Third Place Winner: 90 second Thesis Competition, Graduate Studies, Rice University
2016 RoosterBio Travel Award for World Biomaterials Congress
2016 Smalley-Curl Institute Travel Award, SCI Transdisciplinary Symposium
2018 Honorable Mention Poster Award, Smalley-Curl Institute Symposium

Successive Position: Research Associate, Baylor College of Medicine

Undergraduate Student Awards

Akhil Surapaneni

2017 Loewenstern Fellowship, Center for Civic Leadership, Rice University

David Yalacki

2016 First Place Poster, Engineering: 2016 Spring Rice Undergraduate Research Symposium (RURS)

Maryam Elizondo

2017 First Place Poster: 2017 Summer Rice Undergraduate Symposium

Service on Additional Thesis Committees

Defended

2015: Eliza Fong (Rice Bioe, co-PIs: Mary C. Farach-Carson and Antonios G. Mikos)

2016: Eric Gomez (Rice Bioe, PI: Junghae Suh)

2016: Sarita Shah (Rice Bioe, PI: Antonios G. Mikos)

2016: Jordan Trachtenberg (Rice Bioe, PI: Antonios G. Mikos)

2016: Joelle Baddour (Rice CHBE, PI: Deepak Nagrath)

2018: Sydney Gibson (Rice Bioe, PI: Mary E. Dickinson, Baylor College of Medicine)

2019: Brandon Smith (Rice Bioe PI: Antonios G. Mikos)

2019: Brianna Kuypers (Rice CHBE, PI: Laura Segatori)

2020: Lindsey Sablatura (Rice Bios, PI: Mary C. Farach-Carson)

Research Fellows

Name:	Successive Position:
2013: Steve Kelly	Undergraduate student, Worcester Polytechnic Institute
2013: Anderson Ta	Founder, OpenFactory
2013: Andreas Bastian	3D Printing Research, Autodesk
2014: Harrison Tyler	Digital Fabrication Lab, Maryland Institute College of Arts
2014: Dale Price	Software Programmer
2014: Nick Parker	Undergraduate student, Cornell University

Undergraduate Trainees — Record of Placement

1. 2013–2014: Sergio Gonzalez
2. 2013–2015: Andrea Pinto
3. 2013–2014: Matthew Nojoomi
4. 2013–2015: Daniel Hwang
5. 2014–2015: Kim Le — PhD Graduate Student, Georgia Institute of Technology
6. 2014: Caroline Brigham
7. 2014-2016: Alex Zaita
8. 2014–2017: Nicholas Calafat — Biomedical Engineer, Current Health
9. 2014–2016: Paul Greenfield — MD/PhD Student, Emory University/Georgia Institute of Technology
10. 2014–2016: David Yalacki, **HHMI SER Scholar**

11. 2014–2016: Allen Zhao
12. 2014–2017: Akhil Surapaneni
13. 2014–2018: Palvasha Deme
14. 2015: Amelia Bian
15. 2016: Hannah Jackson
16. 2016–2018: Steven Chen
17. 2016–2017: Allison Porter
18. 2016–2018: Patricia Thai Product Development Engineer, Integra LifeSciences
19. 2016: Christopher VanGundy
20. 2016–2017: Karen Vasquez, **HHMI SER Scholar**
21. 2017: Amanda Avila Avila
22. 2016–2018: Maryam Elizondo, **HHMI SER Scholar**
23. 2017: Diego R de Santos, **AHA BUILDing Scholar**
24. 2017–2019: Justin Tang
25. 2017–2019: Angelo Molina-Rossi, **HHMI SER Scholar**
26. 2017–2019: Charlene Pan PhD Graduate Student, University of California, Berkeley
27. 2020–present: David Ikejiani

High School Trainees

2014: Humphrey Obuobi; successive position: matriculated at Harvard University

2016–2017: Saarang Panchavati; successive position: matriculated at UC Berkeley

Invited Talks, Podium Presentations, and Poster Presentations

1. **Jordan S. Miller***. "3D-Printed Fluidic Networks as Vasculature for Engineered Tissues." **GRC on Signal Transduction through Engineered Extracellular Matrix (STEEM).** Southern New Hampshire University, Manchester, NH. June, 2022. (Talk)
2. **Jordan S. Miller***. "Illuminating Progress on 3D Bioprinting of Engineered Tissues and Organoids." **World Biomaterials Congress.** Glasgow, Scotland, UK. December, 2020. (Talk)
3. **Jordan S. Miller***. "Illuminating Progress on 3D Bioprinting of Engineered Tissues and Organoids." University of Cambridge, Cambridge, UK. November, 2020. (Talk)
4. **Jordan S. Miller***. "Illuminating Progress on 3D Bioprinting of Engineered Tissues and Organoids." **BioMedical Engineering Society 2020.** San Diego, CA. October, 2020. (Talk)
5. **Jordan S. Miller*.** "Illuminating Progress on 3D Bioprinting of Engineered Tissues and Organoids." **3DHEALS 2020.** Online: June 2020. (Talk)
6. **Jordan S. Miller*.** "Illuminating Progress on 3D Bioprinting of Engineered Tissues and Organoids." **Construct3D 2020.** Rice University, Houston, TX: February 2020. (Talk)
7. **Jordan S. Miller*.** "Illuminating Progress on 3D Bioprinting of Engineered Tissues and Organoids." **Open-Source 3D Bioprinting Conference.** Carnegie Mellon University, Pittsburgh, PA: December 2019. (Talk)
8. **Jordan S. Miller*.** "Illuminating Progress on 3D Bioprinting of Engineered Tissues and Organoids." Baylor College of Medicine, Houston, TX: December 2019. (Talk)
9. **Jordan S. Miller*.** "Illuminating Progress on 3D Bioprinting of Engineered Tissues and Organoids." MD Anderson Cancer Center, Houston, TX: December 2019. (Talk)
10. A. Kristen Means*, **Jordan S. Miller**. "3D-Printed Fluidic Networks as Vasculature for Engineered Tissues." **Inserm Workshop 258: 3D Bioprinting and Biofabrication**, Bordeaux, France. November 14, 2019. (Talk)
11. Janson, KD*; Sazer, DW; Grigoryan, B; Paulsen, SJ; Calderon, GA; Kinstlinger, IS; Gounley, JP; Randles, A; **Miller, JS**. "Optimizing Human Lung Design via 3D Bioprinting." **Gulf Coast Consortia Regenerative**

Medicine Symposium. Houston, TX. November 8, 2019. (Poster)

12. Janson, KD*; Sazer, DW; Grigoryan, B; Paulsen, SJ; Calderon, GA; Kinstlinger, IS; Gounley, JP; Randles, A; Rosenkrantz, JE; Louis-Rosenberg, JD; **Miller, JS**. "Optimizing Human Lung Design via 3D Bioprinting." **Bioengineering Innovation Symposium**. October 1, 2019. Houston, TX. (Talk).
13. Grigoryan, BG; Paulsen, SJ; Corbett, DC; Sazer, DW; Janson, KD*; Fortin, CL; Zaita, AJ; Greenfield, PT; Calafat, NJ; Gounley, JP; Ta, AH; Randles, A; Rosenkrantz, JE; Louis-Rosenberg, JD; Galie, PA; Stevens, KR; **Miller, JS**. "Soft, Compliant Intravascular Hydrogel Architectures Support Unidirectional Flow and Fluid Mixing." **Annual meeting of the Biomedical Engineering Society.** Philadelphia, PA. October 17, 2019. (Talk).
14. Kinstlinger IS*, Resenkrants JE, Louis-Rosenberg JD, Bissig-Choisat B, Garica JE, Bissig KD, **Miller JS**. "Sacrificially templated dendritic networks support engineered hepatic-like tissue function". **Annual meeting of the Biomedical Engineering Society.** Philadelphia, PA. October 17, 2019. (Talk).
15. Bagrat Grigoryan, Samantha J. Paulsen, Daniel C. Corbett, Daniel W. Sazer*, Chelsea L. Fortin, Alexander J. Zaita, Paul T. Greenfield, Nicholas J. Calafat, John P. Gounley, Anderson H. Ta, Amanda Randles, Jessica E. Rosenkrantz, Jesse D. Louis-Rosenberg, Peter A. Galie, Kelly R. Stevens, **Jordan S. Miller**. "Identification of Non-toxic Photoabsorbers for Hydrogel Stereolithography: Characterization of Gelation Kinetics and Applications in Tissue Engineering" **Biomedical Engineering Society**. Philadelphia, PA. October 17, 2019. (Poster).
16. Gisele A. Calderon*, Bagrat Grigoryan, Samantha J. Paulsen, **Jordan S. Miller**. "3D printed vascular networks within cell-degradable hydrogels to promote angiogenic sprouting." **Annual meeting of the Biomedical Engineering Society.** Philadelphia, PA. October 2019. (Talk).
17. Janson, KD*; Sazer, DW; Grigoryan, B; Paulsen, SJ; Calderon, GA; Kinstlinger, IS; Gounley, JP; Randles, A; **Miller, JS**. "Optimizing Human Lung Design via 3D Bioprinting." **Advances in Tissue Engineering Shortcourse**, Houston, TX. August 15, 2019. (Poster).
18. Gisele A. Calderon*, Bagrat Grigoryan, Samantha J. Paulsen, **Jordan S. Miller**. "3D printed vascular networks within cell-degradable hydrogels to promote angiogenic sprouting". **Texas Biomaterials Day**. Houston, TX: May 2019. (Poster).
19. Kinstlinger IS* and **Miller JS**. Engineering biomimetic vascular networks. **GCC Regenerative Medicine in Aging Conference**. October 5, 2018. Houston, TX. (Talk).
20. Kinstlinger IS* and **Miller JS**. Engineering biomimetic vascular networks. **Bioengineering Innovation Symposium**. September 7, 2018. Houston, TX. (Talk).
21. Kinstlinger IS*, Vasquez Ruiz K, Yalacki DR, Deme PR, Rosenkratz JE, Louis-Rosenberg JD, Panchavati S, Bissig KD, and **Miller JS**. Laser sintered sacrificial carbohydrate templates for perfusion of dendritic vascular networks in engineered volumetric tissues. **Signal Transduction in Engineered Extracellular Matrices (Gordon Research Conference)**. July 23-27, 2018; Andover, NH. (Poster).
22. Kinstlinger IS*, Vasquez Ruiz K, Yalacki DR, Deme PR, Rosenkratz JE, Louis-Rosenberg JD, Panchavati S, Bissig KD, and **Miller JS**. Laser sintered sacrificial carbohydrate templates for perfusion of dendritic vascular networks in engineered volumetric tissues. **Texas Biomaterials Day**. June 1, 2018; College Station, TX. (Poster).
23. Daniel W. Sazer*, Bagrat Grigoryan, Jacob Albritton, Aparna Phadye, Amanda Avila, Anderson Ta, Don Gibbons, **Jordan S. Miller**. "3D Stereolithography Using Gelatin Methacrylate: A Novel Invasion Assay for Multicellular Aggregates." **Biomedical Engineering Society**, Atlanta GA: October 2018 (Talk)
24. **Gisele A. Calderon***, Bagrat Grigoryan, Samantha J. Paulsen, Jordan S. Miller. "Toward geometrically guided angiogenesis in 3D printed, perfused vascularized hydrogels". **Smalley-Curl Institute Transdisciplinary Symposium**, Houston, Texas: August 2018. (Poster).
25. **Gisele A. Calderon***, Bagrat Grigoryan, Samantha J. Paulsen, Jordan Miller. "Geometrically guided angiogenesis in 3D printed, perfused vascularized hydrogels". **Texas Biomaterials Day**. College Station, TX: June 2018. (Talk).
26. Daniel W. Sazer*, Bagrat Grigoryan, Jacob Albritton, Aparna Phadye, Amanda Avila, Anderson Ta, Don Gibbons, **Jordan S. Miller**. "3D Stereolithography Using Gelatin Methacrylate: A Novel Invasion Assay for Multicellular Aggregates." **Biomaterials Day**, Houston, Texas: June 2018 (Poster)
27. **Jordan S. Miller***. "Illuminating Progress on 3D Bioprinting of Engineered Tissues and Organoids." **FDA Center for Biologics and Evaluation and Research (CBER)**, Silver Spring, MD: June 2018. (Talk)
28. **Jordan S. Miller***. "Illuminating Progress on 3D Bioprinting of Engineered Tissues and Organoids." **Stanford Single Ventricle Summit**, Stanford, CA: April 2018. (Talk)

29. **Jordan S. Miller*.** "3D Printing of Vascularized Tissues." NASA New Organ Vascular Tissue Challenge, Mountain View, CA: March 2018. (Talk)
30. Ian S. Kinstlinger*, Palvasha R. Deme, **Jordan S. Miller**. "Volumetric spatial mapping of cell metabolism in model tissues with embedded hierarchically branched vascular networks". **Smalley-Curl Institute Transdisciplinary Symposium**, Houston, Texas: February 2018. (Talk).
31. **Jordan S. Miller*.** Radio Interview: 3D Printing. Jan 12, 2018. Anything You Ever Wanted to Know, NPR/KERA Dallas.
32. **Jordan S. Miller***. "Keynote: Illuminating Progress on 3D Bioprinting of Engineered Tissues and Organoids." **Workshop Namisceb : 3D Bioprinting**, Grenoble, France: December 2017. (Talk)
33. Sixuan Pan (Charlene)*, Samantha J. Paulsen, Dan W. Sazer, Bagrat Grigoryan, **Jordan Miller**. "Selective Spatial Control of Crosslinking Density in a 3D Printed PEG Hydrogel." **Gulf Coast Undergraduate Research Symposium (GCURS) 2017,** Houston, Texas: November 2017. (Talk)
34. Daniel W. Sazer*, Bagrat Grigoryan, Paul Greenfield, Anderson Ta, **Jordan S Miller**. "Low-cost Stereolithography for 3D Printing of Multi-Material Tissue Mimics." **4th Annual Innovation Symposium**, Houston, TX: November 2017 (Poster)
35. Daniel W. Sazer*, Bagrat Grigoryan, Paul Greenfield, Anderson Ta, **Jordan S. Miller**. "Low-cost Stereolithography for 3D Printing of Multi-Material Tissue Mimics." **27th Annual Keck Research Conference**, Houston, TX: October 2017 (Poster)
36. Daniel W. Sazer*, Bagrat Grigoryan, Paul Greenfield, Anderson Ta, **Jordan S. Miller**. "Low-cost Stereolithography for 3D Printing of Multi-Material Tissue Mimics." **7th Annual Neuroengineering Symposium**, Houston, TX: October 2017 (Poster)
37. **Jordan S. Miller***. "3D printing of tissue constructs with perfusable vascular networks." **North American Vascular Biology Organization (NAVBO) 2017 Vascular Matrix Biology and Bioengineering (VVMBB) Workshop**, Monterey, CA: October 2017. (Talk)
38. **Jordan S. Miller***. "3D Printing of Engineered Tissues with Vascular Networks." **Keck Seminar**, Houston, TX: September 2017. (Talk)
39. **Jordan S. Miller*,** Adam W. Feinberg*. "3D Bioprinting of Organs." **MRS Bulletin Webinar**, Online: September 2017. (Talk)
40. Ian S. Kinstlinger*, David R. Yalacki, Karen Vasquez, and **Jordan S. Miller**. "Sacrificial templating of vascular topologies using laser sintered carbohydrates." **Biomaterials Day**, Austin, Texas: June 2017.
41. Samantha J. Paulsen, James Long*, Bagrat Grigoryan, Wolfgang Stefan, **Jordan S. Miller** and Richard R. Bouchard, Quantitative 3D assessment of flow in a printed hydrogel vascular phantom. **IEEE International Ultrasonics Symposium**: September 2017. (Poster)
42. **Jordan S. Miller***. "Vascularization of Tissue Engineering Constructs." **Advances in Tissue Engineering Short Course**, Houston, TX: August 2017. (Talk)
43. Gisele A. Calderon*, Patricia Thai, Chih-Wei Hsu, Bagrat Grigoryan, Sydney M. Gibson, Mary E. Dickinson, and **Jordan S. Miller**. "Tubulogenic potential of human iPS-derived endothelial cells and human mesenchymal stem cells co-cultured in fibrin and gelatin methacrylate gels." **Gordon Research Seminar - Angiogenesis**, Salve Regina University, Newport, RI: August 2017. (Poster)
44. **Jordan S. Miller***. "3D Printing of Engineered Tissues with Vascular Networks." **Technology Collaboration Center of Houston Additive Manufacturing and Advanced Materials Workshop**, Houston, TX: June 2017. (Talk)
45. **Jordan S. Miller***. "3D Printing of Engineered Tissues with Vascular Networks." **Texas Biomaterials Day**, Austin, TX: June 2017. (Talk)
46. **Jordan S. Miller***. "3D Tissue Printing." **APV 2D and 3D Printing Short Course**, Berlin, Germany: June 2017. (Talk)
47. **Jordan S. Miller***. "3D printing of vascularized tissues for in vitro and in vivo studies." **2nd International Conference on 3D Printing in Medicine**, Mainz, Germany: June 2017. (Talk)

48. Dan W. Sazer*, Bagrat Grigoryan, Paul T. Greenfield, Anderson H. Ta, **Jordan S. Miller**. "Low-cost Stereolithography for 3D Printing of Multi-Material Sensory Organ Mimics." **Biomaterials Day**, Austin, Texas: June 2017. (Poster)

49. **Jordan S. Miller***. "3D printing of vascularized tissues for in vitro and in vivo studies." **GCC Regenerative Medicine Symposium**, Houston, TX: April 2017. (Talk)

50. Dan W. Sazer*, Bagrat Grigoryan, Paul. T. Greenfield, Anderson Ta, **Jordan S. Miller**. "Low-cost Stereolithography for 3D Printing of Multi-Material Tissue Mimics." **GCC Regenerative Medicine Symposium**, Houston, TX: April 2017. (Poster)

51. Ian S. Kinstlinger*, David R. Yalacki, and **Jordan S. Miller**. "Engineered tissues with perfusable vascular networks created by sacrificial templating of laser sintered carbohydrates." **GCC Regenerative Medicine Symposium**, Houston, TX: April 2017. (Poster)

52. Samantha J. Paulsen*, Bagrat Grigoryan, **Jordan S. Miller**. "Design and Characterization of Microscale Bicuspid Valves Fabricated in Biocompatible Hydrogels." **Society for Biomaterials Annual Meeting**, Minneapolis, MN: April 2017. (Talk).

53. Samantha J. Paulsen*, Carol Chen, Bagrat Grigoryan, Nick Calafat, Pavan Atluri, **Jordan S. Miller**. "In Vivo Anastomosis and Perfusion of a 3D Printed PEG Hydrogel Containing Microvascular Networks." **Society for Biomaterials Annual Meeting**, Minneapolis, MN: April 2017. (Talk).

54. **Jordan S. Miller***. "3D printing of vascularized tissues." **Houston VA Hospital**, Houston, TX: March 2017. (Talk)

55. **Jordan S. Miller***. "BioMedical 3D Printing." **Tx/Rx Labs**, Houston, TX: March 2017. (Talk)

56. **Jordan S. Miller***. "Models of Lung Cancer Invasion and Metastasis." **Keystone Symposium**, Boston, MA: March 2017. (Talk)

57. **Jordan S. Miller***. "3D Printing of Vascularized Tissues." **Texas A&M IBT**, Houston, TX: March 2017. (Talk)

58. Samantha J. Paulsen*, Bagrat Grigoryan, **Jordan S. Miller**. "Design, fabrication, and characterization of 3D printed microscale bicuspid valves." **Smalley Curl Institute Transdisciplinary Symposium. Houston, TX**: February 2017. (Talk).

59. Samantha J. Paulsen*, Bagrat Grigoryan, **Jordan Miller**. "3D Printed Vascularized Tissues: Closing the Loop between Computational and Experimental Models" . **American Association for the Advancement of Science Annual Meeting.** Austin, TX: February 2017. (Poster)

60. **Jordan S. Miller***. "Stereolithography of Engineered Tissues Containing Interpenetrating Vascular Networks." **ACS Surfaces and Colloids**, Houston, TX: November 2016. (Talk)

61. **Jordan S. Miller***. "3D Printing of Vascularized Tissues." **NASA Ames Research Center**, Mountain View, CA: November 2016. (Talk)

62. Patricia Thai*, Gisele A. Calderon, and **Jordan S. Miller**. "Capillary morphogenesis of hiPS-ECs & hMSCs in co-culture within fibrin & gelatain methacrylate hydrogels." **Fall 2016 Bioengineering Undergraduate Research Symposium**. Rice University, Houston, TX: November 2016 (Poster).

63. Dan W. Sazer, Bagrat Grigoryan, Paul T. Greenfield, Anderson H. Ta, **Jordan S. Miller**. "Low-cost Stereolithography for 3D Printing of Multi-Material Sensory Organ Mimics." **6th Annual Neuroengineering Symposium.** Rice University. Houston, TX: October 2016 (Poster)

64. Bagrat Grigoryan, Dan W. Sazer*, Paul T. Greenfield, Anderson Ta, **Jordan S. Miller**. "Spatially Controlled Photo-Patterning of Multi-Material Bioactive Hydrogels." **3rd Annual Innovation Symposium.** Rice University. Houston, TX: September 2016 (Poster).

65. Gisele A. Calderon*, **Jordan S. Miller.** "Cell mediated remodeling of engineered microvasculature." **3rd Annual Innovation Symposium.** Rice University, Houston, TX: September 2016. (Talk)

66. **Samantha J. Paulsen***, Bagrat Grigoryan, Jordan S. Miller. "Design and Characterization of Microscale Bicuspid Valves Fabricated in Biocompatible Hydrogels." **Biomedical Engineering Society Annual**

Meeting, Minneapolis, MN: October 2016. (Talk).

67. **Miller JS*.** "Stereolithography of Engineered Tissues Containing Interpenetrating Vascular Networks". **BioMedical Engineering Society 2016 Meeting**, Minneapolis, MN: October 2016. (Talk).
68. Samantha J. Paulsen*, Carol Chen, Bagrat Grigoryan, Nick Calafat, Pavan Atluri, **Jordan S. Miller**. "In Vivo Anastomosis and Perfusion of a 3D Printed PEG Hydrogel Containing Microvascular Networks." **Biomedical Engineering Society Annual Meeting**, Minneapolis, MN: October 2016. (Talk).
69. Karen Vazquez*, Ian S. Kinstlinger, **Jordan S. Miller**. "Controlling the Geometry of Sacrificial Vascular Templates." **SER Scholars Symposium**, Houston, TX: August 2016. (Poster).
70. Bagrat Grigoryan*, Samantha Paulsen, Dan Sazer, Paul Greenfield, Alex Zaita, Anderson Ta, **Jordan S. Miller**. "Stereolithography of Engineered Tissues Containing Interpenetrating Vascular Networks." **Gordon Research Conference (STEEM)**, Biddeford, ME: June 2016. (Poster).
71. Bagrat Grigoryan*, Samantha Paulsen, Dan Sazer, Paul Greenfield, Alex Zaita, Anderson Ta, **Jordan S. Miller**. "Stereolithography of Engineered Tissues Containing Interpenetrating Vascular Networks." **Gordon Research Seminar (STEEM)**, Biddeford, ME: June 2016. (Talk).
72. Bagrat Grigoryan*, Samantha Paulsen, Dan Sazer, Paul Greenfield, Alex Zaita, Anderson Ta, **Jordan S. Miller**. "Stereolithography of Engineered Tissues Containing Interpenetrating Vascular Networks." **Gordon Research Seminar (STEEM)**, Biddeford, ME: June 2016. (Poster).
73. Bagrat Grigoryan, Dan W. Sazer*, Paul T. Greenfield, Anderson Ta, **Jordan S. Miller**. "Spatially Controlled Photo-Patterning of Multi-Material Bioactive Hydrogels." **Gordon Research Conference (STEEM),** Biddeford, ME: June 2016. (Poster)
74. Bagrat Grigoryan, Dan W. Sazer*, Paul T. Greenfield, Anderson Ta, **Jordan S. Miller**. "Spatially Controlled Photo-Patterning of Multi-Material Bioactive Hydrogels." **Gordon Research Seminar (STEEM),** Biddeford, ME: June 2016. (Poster)
75. Ian S Kinstlinger*, David R. Yalacki, and **Jordan S. Miller**. "Engineered tissues with perfusable vascular networks created by sacrificial templating of laser sintered carbohydrates." **Biomaterials Day**, San Antonio, Texas: June 2016. (Talk)
76. Samantha J. Paulsen*, Bagrat Grigoryan, **Jordan S. Miller**. "Mapping convective and diffusive transport in 3D printed vascularized tissues." **Biomaterials Day**, San Antonio, Texas: June 2016. (Poster)
77. Gisele A. Calderon*, Samantha J. Paulsen, **Jordan S. Miller**. "Tubulogenesis of iPS endothelial cells stabilized by human mesenchymal stem cells in fibrin gels." **Biomaterials Day**, San Antonio, Texas: June 2016. (Poster)
78. Renganaden Sooppan, Samantha J. Paulsen*, Jason Han, Anderson H. Ta, Patrick Dinh, Ann C. Gaffey, Chantel Venkataraman, Alen Trubelja, George Hung, **Jordan S. Miller**, Pavan Atluri. "In vivo implantation and perfusion of a gel containing 3D printed internal microvascular networks." **World Biomaterials Congress**, Montreal, Canada: May 2016. (Poster)
79. Samantha J. Paulsen*, Bagrat Grigoryan, **Jordan S. Miller**. "Mapping convective and diffusive transport in 3D printed vascularized tissues." **World Biomaterials Congress**, Montreal, Canada: May 2016. (Poster)
80. Jacob L. Albritton*, Jonathon D. Roybal, Samantha J. Paulsen, Jose A. Flores-Zaher, Mary C. Farach-Carson, Don L. Gibbons, and **Jordan S. Miller**. "Ultrahigh-throughput Generation and Characterization of Cellular Aggregates in Laser-ablated Microwells of Poly(dimethylsiloxane)." **World Biomaterials Congress**, Montreal, Canada: May 2016. (Talk)
81. Bagrat Grigoryan*, Paul T. Greenfield, Anderson Ta, **Jordan S. Miller**. "Spatially Controlled Photo-Patterning of Multi-Material Bioactive Hydrogels." **World Biomaterials Congress**, Montreal, Canada: May 2016. (Poster)
82. Bagrat Grigoryan*, Samantha J. Paulsen, Alexander J. Zaita, Paul T. Greenfield, Anderson Ta, **Jordan S. Miller**. "Stereolithography of Engineered Tissues Containing Interpenetrating Vascular Networks." **World**

Biomaterials Congress, Montreal, Canada: May 2016. (Talk)

83. Gisele A. Calderon*, Samantha J. Paulsen, **Jordan S. Miller**. "Tubulogenesis of iPS Endothelial Cells Stabilized by Human Mesenchymal Stem Cells in Fibrin Gels." **World Biomaterials Congress**, Montreal, Canada: May 2016. (Poster)
84. Ian S Kinstlinger*, Andreas Bastian, Daniel H. Hwang, Anderson H. Ta, Samantha J. Paulsen, Tim Schmidt, and **Jordan S. Miller**. "Open-source Selective Laser Sintering (OpenSLS) of nylon and biocompatible polycaprolactone." **World Biomaterials Congress**, Montreal, Canada: May 2016. (Poster)
85. Ian S Kinstlinger*, David R. Yalacki, and **Jordan S. Miller**. "Engineered tissues with perfusable vascular networks created by sacrificial templating of laser sintered carbohydrates." **World Biomaterials Congress**, Montreal, Canada: May 2016. (Talk)
86. Samantha J. Paulsen*, Bagrat Grigoryan, **Jordan S. Miller**. "3D Printing Vascularized Tissues: Closing the Loop Between Computational and Experimental Models." **Smalley Curl Institute Transdisciplinary Symposium**. Houston, TX: April 2016. (Talk)
87. Ian S Kinstlinger*, David R. Yalacki, and **Jordan S. Miller**. "Engineered tissues with perfusable vascular networks created by sacrificial templating of laser sintered carbohydrates." **Smalley Curl Institute Transdisciplinary Symposium**. Houston, TX: April 2016. (Talk)
88. Gisele A. Calderon*, Samantha J. Paulsen, **Jordan S. Miller**. "Developing microvasculature for engineered tissues." **Smalley Curl Institute Transdisciplinary Symposium**. Houston, TX: April 2016. (Talk)
89. **Miller JS*.** "Fabrication of 3D Tissue". **10th World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology**, Glasgow, Scotland, UK: April 2016. (Talk)
90. Palvasha Deme*, Jacob L. Albritton, Samantha J. Paulsen, Bagrat Grigoryan, and **Jordan S. Miller**. "Optimization of a Cryosectioning Protocol for Cell-Laden Hydrogels Fabricated by Stereolithography." **Rice Undergraduate Research Symposium**, Houston, TX: April 2016. (Poster)
91. Nick Calafat*, Bagrat Grigoryan, Paul Greenfield, and **Jordan S. Miller**. "Mechanical Testing of Hydrogels 3D-Printed by Digital Light Processing (DLP) Photolithography." **Rice Undergraduate Research Symposium**, Houston, TX: April 2016. (Poster)
92. Gisele Calderon*. "3D printing blood vessels: a new hope". **Rice University 90 Second Thesis**, Houston, TX: March 2016. (Talk)
93. Samantha J. Paulsen*. "3D Printing blood vessels: towards engineering personalized tumor models." **Rice University 90 Second Thesis**, Houston, TX: March 2016. (Talk).
94. **Miller JS*.** "Stereolithography of Engineered Tissues Containing Interpenetrating Vascular Networks". **Materials Research Society 2016 Meeting**, Phoenix AZ: March 2016. (Talk)
95. **Miller JS*.** "Fabrication of 3D tissue with perfusable vasculature". **Department of Materials Science, University of Florida**, Gainesville FL: March 2016. (Talk)
96. **Miller JS*.** "Fabrication of 3D tissue with perfusable vasculature". **University of Texas Health Science Center (UTHealth)**, Houston, TX: February 2016. (Talk)
97. **Miller JS*.** "Medical 3D Printing". **NASA 2016 Human Research Program Investigators' Workshop**, Galveston, TX: February 2016. (Talk)
98. Samantha Paulsen*, Akhil Surapaneni*, and **Jordan S. Miller**. "3D Printing." **Baker Institute Talk at the Robert Shaw Center for STEAM**, Katy, TX: January 2016. (Talk)
99. Jacob L. Albritton*, Jonathon D. Roybal, Samantha J. Paulsen, Jose A. Flores-Zaher, Mary C. Farach-Carson, Don L. Gibbons, and **Jordan S. Miller**. "Ultrahigh-throughput Generation and Characterization of Cellular Aggregates in Laser-ablated Microwells of Poly(dimethylsiloxane)." **Cellular and Molecular Bioengineering**, New Orleans, LA: January 2016.
100. Akhil Surapaneni* and **Jordan Miller**. "e-NABLE progress Update." **e-NABLE Town Hall Meeting**, Houston, TX (online): January 2016. https://www.youtube.com/watch?v=Du5CFf9ZwUs

101. Samantha J. Paulsen*, Bagrat Grigoryan, **Jordan S. Miller**. "Closing the Loop between Computational and Experimental Models in 3D Printing Vascularized Tissues." **CPRIT Annual Conference**, Austin, TX: November 2015.
102. Jacob L. Albritton*, Jonathon D. Roybal, Samantha J. Paulsen, Jose A. Flores-Zaher, Mary C. Farach-Carson, Don L. Gibbons, and **Jordan S. Miller**. "High-throughput Generation and Characterization of Cellular Aggregates by CO2 Laser Ablation of Poly(dimethylsiloxane)." **CPRIT Annual Conference**, Austin, TX: November 2015.
103. **Miller JS*.** "Toward Solid Organ Regeneration." **deToledo High School Science Colloquium,** Los Angeles, CA: November 2015. (Talk)
104. Samantha J. Paulsen*, Bagrat Grigoryan, **Jordan S. Miller**. "3D Printing Vascularized Tissues: Closing the Loop between Computational and Experimental Models." **BRC Innovation Symposium**, Houston, TX: September 2015. (Talk)
105. Jacob L. Albritton*, Jonathon D. Roybal, Samantha J. Paulsen, Jose A. Flores-Zaher, Mary C. Farach-Carson, Don L. Gibbons, and **Jordan S. Miller**. "Microwell Fabrication by Laser Ablation of PDMS for Generating Cancer Spheroids." **BRC Innovation Symposium**, Houston, TX: September 2015. (Poster)
106. Bagrat Grigoryan*, Paul Greenfield, Anderson Ta, **Jordan S. Miller**. "Structural comparison of 3D printed photosensitive resin and poly(ethylene glycol) polymer hydrogels by digital light projection photolithography." **BRC Innovation Symposium**, Houston, TX: September 2015. (Poster)
107. Ian S Kinstlinger*, Andreas Bastian, Daniel H. Hwang, Anderson H. Ta, Samantha J. Paulsen, and **Jordan S. Miller**. "Characterization of nylon and polycaprolactone structures fabricated using an open-source Selective Laser Sintering platform." **BRC Innovation Symposium**, Houston, TX: September 2015. (Poster)
108. Samantha J. Paulsen*, **Jordan S. Miller**. "Medical 3D Printing." **IAIABC Annual Meeting**, Chicago, IL: August 2015. (Talk)
109. **Miller JS*.** " Three-dimensional Printing Technologies to Define the Architecture of Living Tissues." **Advances in Tissue Engineering Short Course**, Houston, TX: August 2015. (Talk)
110. Gisele A. Calderon*, Samantha J. Paulsen, **Jordan S. Miller**. "Putative Capillaries Formed with Mesenchymal Stem Cell-Endothelial Cell Interactions in Fibrin Gels." **Advances in Tissue Engineering Short Course**, Houston, TX: August 2015. (Poster)
111. Samantha J. Paulsen*, Bagrat Grigoryan, **Jordan S. Miller**. "3D Printing Vascularized Tissues: Closing the Loop between Computational and Experimental Models." **Advances in Tissue Engineering Short Course**, Houston, TX: August 2015. (Poster)
112. Jacob L. Albritton*, Jonathon D. Roybal, Samantha J. Paulsen, Jose A. Flores-Zaher, Mary C. Farach-Carson, Don L. Gibbons, and **Jordan S. Miller**. "Microwell Fabrication by Laser Ablation of PDMS for Generating Cancer Spheroids." **Advances in Tissue Engineering Short Course**, Houston, TX: August 2015. (Poster)
113. Bagrat Grigoryan*, Paul Greenfield, Anderson Ta, **Jordan S. Miller**. "Structural comparison of 3D printed photosensitive resin and poly(ethylene glycol) polymer hydrogels by digital light projection photolithography." **Advances in Tissue Engineering Short Course**, Houston, TX: August 2015. (Poster)
114. Ian S Kinstlinger*, Andreas Bastian, Daniel H. Hwang, Anderson H. Ta, Samantha J. Paulsen, and **Jordan S. Miller**. "Characterization of nylon and polycaprolactone structures fabricated using an open-source Selective Laser Sintering platform." **Advances in Tissue Engineering Short Course**, Houston, TX: August 2015. (Poster)
115. **Miller JS*.** " High-throughput Generation and Characterization of Cellular Aggregates for 3D Bioprinting." **Organ-on-a-Chip and 3D Printing in the Life Sciences Conference**, Boston, MA: July 2015. (Talk)
116. Gisele A. Calderon*, Samantha J. Paulsen, **Jordan S. Miller**. "Putative Capillaries Formed with Mesenchymal Stem Cell-Endothelial Cell Intereactions in Fibrin Gels." **GCC Regenerative Medicine Symposium**, Houston, TX: June 2015. (Poster)

117. Samantha J. Paulsen*, Bagrat Grigoryan, **Jordan S. Miller**. "3D Printing Vascularized Tissues: Closing the Loop between Computational and Experimental Models." **GCC Regenerative Medicine Symposium**, Houston, TX: June 2015. (Poster)
118. Ian S Kinstlinger*, Andreas Bastian, Daniel H. Hwang, Anderson H. Ta, Samantha J. Paulsen, and **Jordan S. Miller**. "Characterization of nylon and polycaprolactone structures fabricated using an open-source Selective Laser Sintering platform." **GCC Regenerative Medicine Symposium**, Houston, TX: June 2015. (Poster)
119. **Miller JS*.** "Medical 3D Printing". **Department of Interventional Radiology**, MD Anderson Cancer Center, Houston, TX: April 2015. (Talk)
120. **Miller JS*.** " Open Source 3D Printing for Tissue Engineering: From Melt Extrusion to Laser Sintering." **Tissue Engineering & Bioprinting Research to Commercialization Conference**, Boston, MA: February 2015. (Talk)
121. **Miller JS*.** "Medical 3D Printing". Keynote Presentation at 2015 Alief High School Science Fair, Houston, TX: January 2015. (Talk)
122. **Miller JS*.** "e-NABLE Prosthetics". Department of Orthopedic Surgery, Shriners Hospital for Children, Houston, TX: January 2015. (Talk)
123. Samantha J. Paulsen*, **Jordan S. Miller**. "3D Printing Vascularized Tissues: Closing the Loop between Computational and Experimental Models." **GCC Regenerative Medicine Symposium**, Houston, TX: October 2014. (Poster)
124. Jacob Albritton*, Jose Alfredo Flores, Andreas Bastian, **Jordan S. Miller**. "Microwell Fabrication by Laser Ablation of PDMS for Cancer Spheroid Generation." **GCC Regenerative Medicine Symposium**, Houston, TX: October 2014. (Poster)
125. Bagrat Grigoryan*, Paul Greenfield, Anderson Ta, **Jordan S. Miller**. "Structural comparison of 3D printed photosensitive resin and poly(ethylene glycol) polymer hydrogels by digital light projection photolithography." **GCC Regenerative Medicine Symposium**, Houston, TX: October 2014. (Poster)
126. Miller JS*, "Medical 3D Printing: The Future of Organ Transplantation?" **International Association for Protection of Intellectual Property**: September 2014. (Talk)
127. Miller JS*, "**3D Printing Technologies for Tissue Engineering.**" Plenary talk at **Advances in Tissue Engineering Short Cours**e, Houston, TX: August 2014. (Talk)
128. Jacob Albritton*, Jose Alfredo Flores, Andreas Bastian, **Jordan S. Miller**. "Microwell Fabrication by Laser Ablation of PDMS for Cancer Spheroid Cultivation." **Gordon Research Conference (STEEM), Waltham MA: July 2014.** (Poster)
129. Bagrat Grigoryan*, Paul Greenfield, Anderson Ta, **Jordan S. Miller**. "Structural comparison of 3D printed photosensitive resin and poly(ethylene glycol) polymer hydrogels by digital light projection photolithography." **Gordon Research Conference (STEEM), Waltham MA: July 2014.** (Poster)
130. Miller JS*, "3D Printing Technologies to Define the Architecture of Living Tissues." **Society for Developmental Biology Annual Meeting**, Seattle WA: July 2014. (Talk)
131. **Miller JS*,** "3D Printing Technologies to Define the Architecture of Living Tissues." **Kansas City MakerFaire**, Kansas City, MO: June 2014. (Talk)
132. **Miller JS***, "**Medical 3D Printing.**" Plenary Talk at Additive Manufacturing Summit. Oak Ridge National Lab, Oak Ridge, TN: May 2014. (Talk)
133. Miller JS*, "3D Printing Technologies to Define the Architecture of Living Tissues." **National Institutes of Health (NIH)**, Bethesda, MD: May 2014. (Talk)
134. **Miller JS***, "DEMO: 3D Printing Vasculature for Regenerative Medicine." **3D/DC Third Edition**, Washington, DC: May 2014. (Demo)
135. Miller JS*, "Medical 3D Printing." Panel Discussion: **3D/DC Third Edition**, Washington, DC: May 2014.

(Talk)

136. Interview, "**3D Printing in the Lab: Facilitating Innovation, Fueling Visions**," SLAS: May 2014. (Talk)

137. Miller JS*, "3D Printing Vascularized Tissue for Regenerative Medicine." **Startup Houston**: April 2014. (Talk)

138. Miller JS*, "3D Printing Vascularized Tissue for Studies in Pathology and Regenerative Medicine." **MD Anderson Cancer Center**: April 2014. (Talk)

139. Interview, "**Bioprinting, Part 2 - The Ethical Conundrum.**" TechNewsWorld: March 2014.

140. Interview, "**Bioprinting, Part 1: The Promise and the Pitfalls.**" TechNewsWorld: March 2014.

141. **Miller JS***, "**Advanced Manufacturing Research Institute: Building Open-Source Infrastructures for Science**", Midwest RepRap Festival, Goshen, IN: March 2014. (Talk)

142. Miller JS*, "Medical 3D Printing: The Future of Organ Transplantation?", **Comp-U-Dopt**, Houston, TX: January 2014. (Talk)

143. Miller JS*, "Open-Source Hardware in Regenerative Medicine", **Bio Tech and Beyond**, San Diego, CA: January 2014. (Talk)

144. Miller JS*, "Open-Source Hardware in Regenerative Medicine", **Society for Laboratory Automation and Screening 2014 Meeting**, San Diego, CA: January 2014. (Talk)

145. Interview, "**Computer hackers and bio-medical engineers collaborate to create human organs from scratch**", WHYY Radio Houston, Houston, TX: November 2013.

146. Miller JS*, "Integrating Makers and Scientists", 2013 World MakerFaire, New York, NY: September 2013.

147. **Miller JS*,** "Challenges and Solutions in 3D Printing Engineered Living Tissues", Union College, Schenectady, NY: September 2013. (Talk)

148. Interview, "**Organs on Demand**", The Scientist: September 2013.

149. **Miller JS***, "**Challenges and Solutions in 3D Printing Engineered Living Tissues**", Keck Seminar, Rice University, Houston, TX: September 2013.

150. Miller JS*, "Advanced Manufacturing Research Institute: Building Open-Source Infrastructures for Science", **Plenary Talk at Kansas City Open Hardware Group**, Kansas City, MO: September 2013.

151. Interview. "**Jordan Miller Helps Rice University Get into Medical 3D Printing**." 3D Printer World, August 2013.

152. **Miller JS***, "**Advanced Manufacturing Research Institute**." Rice University, August 2013. (Talk)

153. Interview. "**Jordan Miller on the Uses of 3D Printing in Biotechnology**." KUHF Radio Houston, Bauer Business Focus, August 2013.

154. **Miller JS***, "**3D Printing Technologies for Tissue Engineering**", Plenary talk at Advances in Tissue Engineering Short Course, Houston, TX: August 2013. (Talk)

155. **Miller JS*,** "Advanced Manufacturing Research Institute: Building Open-Source Infrastructures for Science", Keynote at FOSSCON, Philadelphia, PA: August 2013. (Talk)

156. Interview. "**A Sweet Solution for Replacing Organs.**" Scientific American: April 2013.

157. **Miller JS*,** Dialogue on Additive Manufacturing (strategic conversations), **Council on Competitiveness**, Oak Ridge National Labs, Oak Ridge, TN: April 2013. (Talk)

158. **Miller JS***, "**DEMO: 3D Printing Vasculature for Regenerative Medicine.**" **3D/DC II**, Washington, DC: April 2013. (Talk)

159. **Miller JS*,** "On the Challenge of 3D Printing Replacement Organs." **Innovation in Philadelphia- Big Ideas on Funding (panel discussion).** University of Pennsylvania and the Franklin Institute, Philadelphia, PA: April 2013. (Talk)

160. **Miller JS***, "**Science through Analogy: The Future of Human Medicine Might be Pretty Sweet**." **Ignite**

Philly 11, Philadelphia, PA: March 2013. (Talk)

161. **Miller JS*,** "Business Models in 3D Printing: Consumer and Medical Markets." **Ben Franklin Investors and Entrepreneurs (panel discussion)**, Philadelphia, PA: February 2013. (Talk)

162. **Miller JS*,** "3D Printing for the Sweet Tooth: Are Sugar Glass Vascular Networks the Future of Organ Regeneration?" **Science on Tap**, Philadelphia, PA: January 2013. (Talk)

163. **Miller JS***, "Hands-On Ideas - Printing Plastic, Candy and Cells." **Openly Disruptive**, December 2012.

164. **Miller JS***, "**Sweet Success: How Dessert Inspired My Research**." **TEDxYouth@SanDiego**, San Diego, CA: November 2012. (Talk)

165. **Miller JS***, Stevens KR, Yang MT, Baker BM, Nguyen DH, Cohen DM, Toro E, Chen AA, Galie PA, Yu X, Chaturvedi R, Bhatia SN, Chen CS. "Multiscale Vascularization of Engineered Tissues: From Patterned Channels to Capillaries." **BioMedical Engineering Society (BMES)** Meeting — Atlanta, GA: October 2012. (Talk)

166. **Miller JS***, "**Open Source Science for Regenerative Medicine**." Open Science Summit, San Francisco, CA: October 2012. (Talk)

167. **Miller JS***, "**Sweet Science: 3D Printed Sugar Templates for Regenerative Medicine**." Open Hardware Summit, New York, NY: September 2012. (Talk)

168. **Miller JS***, Yang MT, Baker BM, Nguyen DHT, Chaturvedi R, Toro E, Cohen DM, Yu X, Chen CS. "Rapid Printing of Vascular Networks for Large-Scale 3D Tissue Culture." **Society for Biomaterials (SFB)** Annual Meeting — Orlando, FL: April 2011. (Talk)

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171. **Miller JS*.** "Directing Cell Adhesion and Migration by Aligning Focal Adhesions." **Gordon Research Conference** on Signal Transduction by Engineered Extracellular Matrices — Lewiston, ME: July 2008. (Talk & Poster)

172. **Miller JS*.** "2D and 3D Microfabrication for Cell Studies." **New Community Jewish High School**, Science Colloquium — West Hills, CA: October 2007. (Talk)

173. **Miller JS***, West JL. "Laser-based Technologies for Biointerface Engineering." **Third International Symposium on Bioprinting and Biofabrication** — Kanagawa Science Park, Kawasaki, Japan: November 2006. (Talk)

174. **Miller JS***, Béthencourt MI, Hahn M, Lee TR, West JL. "Laser-scanning lithography and soft lithography of micropatterned cell-adhesive self-assembled monolayers." **Society for Biomaterials** Annual Meeting — Memphis, TN: April 2005. (Talk)

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* Presenter