## Bioprinting Imagining and Segmentation References Prof. Steven S. Saliterman October 5, 2020

- 1. Ng, W.L., et al., *Deep learning for fabrication and maturation of 3D bioprinted tissues and organs.* Virtual and Physical Prototyping, 2020. **15**(3): p. 340-358.
- Lee, J.M., S.L. Sing, and W.Y. Yeong, *Bioprinting of Multimaterials with Computer-aided Design/Computer-aided Manufacturing*. International Journal of Bioprinting, 2020. 6(1): p. 65-73.
- 3. Kupfer, M.E., et al., *In Situ Expansion, Differentiation, and Electromechanical Coupling of Human Cardiac Muscle in a 3D Bioprinted, Chambered Organoid.* Circulation Research, 2020. **127**(2): p. 207-224.
- 4. Kim, J., et al., *Engineering Tissue Fabrication With Machine Intelligence: Generating a Blueprint for Regeneration.* Frontiers in Bioengineering and Biotechnology, 2020. **7**.
- 5. Haque, I.N., J, *Deep learning approaches to biomedical image segmentation.* Informatics in Medicine, 2020. **18**.
- 6. Guzzi, E.A. and M.W. Tibbitt, *Additive Manufacturing of Precision Biomaterials.* Advanced Materials, 2020. **32**(13).
- 7. Gong, Z.X., et al., *A Deep Learning Based Level Set Model for Pancreas Segmentation.* Journal of Medical Imaging and Health Informatics, 2020. **10**(11): p. 2681-2685.
- 8. Gardin, C., et al., *Recent Applications of Three Dimensional Printing in Cardiovascular Medicine*. Cells, 2020. **9**(3): p. 742.
- 9. Lam, T., et al., *Photopolymerizable gelatin and hyaluronic acid for stereolithographic 3D bioprinting of tissue-engineered cartilage.* Journal of Biomedical Materials Research Part B-Applied Biomaterials, 2019. **107**(8): p. 2649-2657.
- Hong, C.J., et al., *Clinical applications of three-dimensional printing in otolaryngology-head and neck surgery: A systematic review*. Laryngoscope, 2019.
   129(9): p. 2045-2052.
- 11. Firouzian, K.F., et al., *An Image-Guided Intrascaffold Cell Assembly Technique for Accurate Printing of Heterogeneous Tissue Constructs.* Acs Biomaterials Science & Engineering, 2019. **5**(7): p. 3499-3510.
- 12. Ferrari, E., et al., *Three-dimensional printing in adult cardiovascular medicine for surgical and transcatheter procedural planning, teaching and technological innovation.* Interactive CardioVascular and Thoracic Surgery, 2019. **30**(2): p. 203-214.
- Da Silva, K., et al., Preprocessing of Medical Image Data for Three-Dimensional Bioprinted Customized-Neural-Scaffolds. Tissue Engineering Part C-Methods, 2019.
   25(7): p. 401-410.

- 14. Zhao, Y.H., et al., *Novel conductive polypyrrole/silk fibroin scaffold for neural tissue repair.* Neural Regeneration Research, 2018. **13**(8): p. 1455-1464.
- Underhill, G.H. and S.R. Khetani, *Bioengineered Liver Models for Drug Testing and Cell Differentiation Studies*. Cellular and Molecular Gastroenterology and Hepatology, 2018.
   5(3): p. 426-+.
- 16. Stauffer, W., H.J. Sheng, and H.N. Lim, *EzColocalization: An ImageJ plugin for visualizing and measuring colocalization in cells and organisms*. Scientific Reports, 2018. **8**.
- 17. Sithole, M.N., et al., *A 3D bioprinted in situ conjugated-co-fabricated scaffold for potential bone tissue engineering applications.* Journal of Biomedical Materials Research Part A, 2018. **106**(5): p. 1311-1321.
- 18. Sharafeldin, M., A. Jones, and J.F. Rusling, *3D-Printed Biosensor Arrays for Medical Diagnostics*. Micromachines, 2018. **9**(8): p. 22.
- 19. Pinkert, M.A., et al., *Imaging the Cardiac Extracellular Matrix*, in *Cardiac Extracellular Matrix: Fundamental Science to Clinical Applications*, E.G. Schmuck, P. Hematti, and A.N. Raval, Editors. 2018. p. 21-44.
- 20. Patel, A., et al., *AxonTracer: a novel ImageJ plugin for automated quantification of axon regeneration in spinal cord tissue.* Bmc Neuroscience, 2018. **19**.
- 21. Papagelopoulos, P.J., et al., *Three-dimensional Technologies in Orthopedics*. Orthopedics, 2018. **41**(1): p. 12-20.
- 22. Lv, K. and S. Gao, *Outer-Boundary Assisted Segmentation and Quantification of Trabecular Bones by an Imagej Plugin.* Jove-Journal of Visualized Experiments, 2018(133).
- 23. Lozano-Gerona, J. and A.L. Garcia-Otin, *ImageJ-based semiautomatic method to analyze senescence in cell culture.* Analytical Biochemistry, 2018. **543**: p. 30-32.
- 24. Gohl, J., et al., *Simulations of 3D bioprinting: predicting bioprintability of nanofibrillar inks.* Biofabrication, 2018. **10**(3): p. 12.
- 25. Gholami, P., et al., *Segmentation and Measurement of Chronic Wounds for Bioprinting.* Ieee Journal of Biomedical and Health Informatics, 2018. **22**(4): p. 1269-1277.
- 26. Gelinsky, M., *3D Printing*, in *Digital Health: Scaling Healthcare to the World*, H. Rivas and K. Wac, Editors. 2018, Springer: New York. p. 109-122.
- 27. Foyt, D.A., et al., *Exploiting Advanced Hydrogel Technologies to Address Key Challenges in Regenerative Medicine.* Advanced Healthcare Materials, 2018. **7**(8): p. 22.
- 28. Bernhem, K. and H. Brismar, *SMLocalizer, a GPU accelerated ImageJ plugin for single molecule localization microscopy.* Bioinformatics, 2018. **34**(1): p. 137-138.
- 29. Teodori, L., et al., *Three-dimensional imaging technologies: a priority for the advancement of tissue engineering and a challenge for the imaging community.* Journal of Biophotonics, 2017. **10**(1): p. 24-45.

- 30. Sokolov, P.A., et al., *FibrilJ: ImageJ plugin for fibrils' diameter and persistence length determination.* Computer Physics Communications, 2017. **214**: p. 199-206.
- 31. Smith, M.B., A. Chaigne, and E.K. Paluch, *An active contour ImageJ plugin to monitor daughter cell size in 3D during cytokinesis*, in *Cytokinesis*, A. Echard, Editor. 2017. p. 323-340.
- 32. Rueden, C.T., et al., *ImageJ2: ImageJ for the next generation of scientific image data*. Bmc Bioinformatics, 2017. **18**.
- Roseti, L., et al., Scaffolds for Bone Tissue Engineering: State of the art and new perspectives. Materials Science & Engineering C-Materials for Biological Applications, 2017. 78: p. 1246-1262.
- Puppi, D., et al., Design and fabrication of novel polymeric biodegradable stents for small caliber blood vessels by computer-aided wet-spinning. Biomedical Materials, 2017.
   12(3).
- 35. Merrill, R.A., K.H. Flippo, and S. Strack, *Measuring Mitochondrial Shape with ImageJ*, in *Techniques to Investigate Mitochondrial Function in Neurons*, S. Strack and Y.M. Usachev, Editors. 2017. p. 31-48.
- 36. Li, Y.C., et al., 4D bioprinting: the next-generation technology for biofabrication enabled by stimuli-responsive materials. Biofabrication, 2017. **9**(1).
- 37. Heisler-Taylor, T.N., et al., *Novel ImageJ Analysis Technique for the Quantitation of Apoptotic Hotspots.* Investigative Ophthalmology & Visual Science, 2017. **58**(8).
- 38. Gilles, J.F., et al., *DiAna, an ImageJ tool for object-based 3D co-localization and distance analysis.* Methods, 2017. **115**: p. 55-64.
- 39. Dumas, M., P. Terriault, and V. Brailovski, *Modelling and characterization of a porosity graded lattice structure for additively manufactured biomaterials.* Materials & Design, 2017. **121**: p. 383-392.
- 40. Duchi, S., et al., *Handheld Co-Axial Bioprinting: Application to in situ surgical cartilage repair.* Scientific Reports, 2017. **7**.
- 41. Dominguez, C., J. Heras, and V. Pascual, *IJ-OpenCV: Combining ImageJ and OpenCV for processing images in biomedicine.* Computers in Biology and Medicine, 2017. **84**: p. 189-194.
- 42. Dobretsov, M., et al., *Clock Scan Protocol for Image Analysis: ImageJ Plugins.* Jove-Journal of Visualized Experiments, 2017(124).
- 43. Della Mea, V., et al., *SlideJ: An ImageJ plugin for automated processing of whole slide images.* Plos One, 2017. **12**(7).
- 44. Chen, Y., Q. Yu, and C.B. Xu, *A convenient method for quantifying collagen fibers in atherosclerotic lesions by ImageJ software.* International Journal of Clinical and Experimental Medicine, 2017. **10**(10): p. 14904-14910.
- 45. Arena, E.T., et al., *Quantitating the cell: turning images into numbers with ImageJ.* Wiley

Interdisciplinary Reviews-Developmental Biology, 2017. 6(2).

- 46. Aragon-Sanchez, J., et al., *ImageJ: A Free, Easy, and Reliable Method to Measure Leg Ulcers Using Digital Pictures.* International Journal of Lower Extremity Wounds, 2017.
   16(4): p. 269-273.
- 47. Zhou, Y.F., *The Application of Ultrasound in 3D Bio-Printing*. Molecules, 2016. **21**(5).
- 48. Zeitvogel, F., et al., *ScatterJ: An ImageJ plugin for the evaluation of analytical microscopy datasets.* Journal of Microscopy, 2016. **261**(2): p. 148-156.
- 49. Xiong, R.T., et al., *FREEFORM LASER AND INKJET PRINTING OF BIOLOGICAL CONSTRUCTS.* 2016 International Symposium on Flexible Automation (Isfa), 2016: p. 243-246.
- 50. Park, J.H., et al., *Current advances in three-dimensional tissue/organ printing*. Tissue Engineering and Regenerative Medicine, 2016. **13**(6): p. 612-621.
- 51. Morales, A.A.M. and B.S.V. Toro, *Cutaneous Multispectral Optical tomography With ImageJ.* Optica Pura Y Aplicada, 2016. **49**(4): p. 219-224.
- 52. Li, S., et al., Computational Simulation and Experimental Research of Flow Rates in Coaxial Fluids for Fabricating Hydrogel Fibers, in Second Cirp Conference on Biomanufacturing, P. Bartolo, Editor. 2016. p. 94-98.
- 53. Koukalova, V. and Z. Medvedova, *IMAGEJ SOFTWARE AS A TOOL FOR DETERMINING MORPHOMETRIC PARAMETERS*. Proceedings of International Phd Students Conference, ed. O. Polak, et al. 2016. 722-725.
- 54. Hesuani, Y.D., et al., *Design and Implementation of Novel Multifunctional 3D Bioprinter*.
  3d Printing and Additive Manufacturing, 2016. 3(1): p. 65-68.
- 55. Francisco, L.A.V. and L.C. Trevelin, *Model for Describing Bioprinting Projects in STL*, in *Information Technology: New Generations*, S. Latifi, Editor. 2016. p. 1291-1294.
- 56. Carlier, A., et al., *Computational model-informed design and bioprinting of cell-patterned constructs for bone tissue engineering.* Biofabrication, 2016. **8**(2): p. 17.
- 57. Afshar, M., et al., Additive manufacturing and mechanical characterization of graded porosity scaffolds designed based on triply periodic minimal surface architectures. Journal of the Mechanical Behavior of Biomedical Materials, 2016. **62**: p. 481-494.
- 58. Wang, S.H.M., et al., *DETERMINATION OF SUSTAINABLE DESIGN-CENTERED FACTORS FOR MANUFACTURING BIOPRINTING MATERIAL OF POLYLACTIC ACID*. Proceedings of the Asme 10th International Manufacturing Science and Engineering Conference, 2015, Vol 2. 2015, New York: Amer Soc Mechanical Engineers.
- 59. Nam, S.Y., et al., *Imaging Strategies for Tissue Engineering Applications*. Tissue Engineering Part B-Reviews, 2015. **21**(1): p. 88-102.
- 60. Nam, S.Y., et al., *Combined Ultrasound and Photoacoustic Imaging to Noninvasively Assess Burn Injury and Selectively Monitor a Regenerative Tissue-Engineered Construct.* Tissue Engineering Part C-Methods, 2015. **21**(6): p. 557-566.

- 61. Kupfer, M.E. and B.M. Ogle, Advanced imaging approaches for regenerative medicine: Emerging technologies for monitoring stem cell fate in vitro and in vivo.(Report). Biotechnology Journal, 2015. **10**(10): p. 1515.
- Hinton, T.J., et al., *Three-dimensional printing of complex biological structures by freeform reversible embedding of suspended hydrogels.* Science Advances, 2015. 1(9): p. 10.
- 63. Christensen, K., et al., *Freeform Inkjet Printing of Cellular Structures with Bifurcations.* Biotechnology and Bioengineering, 2015. **112**(5): p. 1047-1055.
- 64. Bonda, D.J., et al., *The Recent Revolution in the Design and Manufacture of Cranial Implants: Modern Advancements and Future Directions.* Neurosurgery, 2015. **77**(5): p. 814-824.
- 65. Yeong, W.Y. and C.K. Chua, *Implementing Additive Manufacturing for medical devices: A quality perspective.* High Value Manufacturing: Advanced Research in Virtual and Rapid Prototyping, 2014: p. 115-120.
- 66. Orloff, N.D., et al., *Integrated bioprinting and imaging for scalable, networkable desktop experimentation.* Rsc Advances, 2014. **4**(65): p. 34721-34728.
- 67. Giannitelli, S.M., et al., *Current trends in the design of scaffolds for computer-aided tissue engineering*. Acta Biomaterialia, 2014. **10**(2): p. 580-594.
- 68. Frese, J., et al., *Nondestructive monitoring of tissue-engineered constructs.* Biomedical Engineering-Biomedizinische Technik, 2014. **59**(2): p. 165-175.
- 69. Voronov, R.S., et al., *3D Tissue-Engineered Construct Analysis via Conventional High-Resolution Microcomputed Tomography Without X-Ray Contrast.* Tissue Engineering Part C-Methods, 2013. **19**(5): p. 327-335.
- 70. Rezende, R.A., et al., *Design of vascular tree for organ bioprinting*, in 23 European *Symposium on Computer Aided Process Engineering*, A. Kraslawski and I. Turunen, Editors. 2013. p. 151-156.
- 71. Lantada, A.D., et al., *Fractals in tissue engineering: toward biomimetic cell-culture matrices, microsystems and microstructured implants.* Expert Review of Medical Devices, 2013. **10**(5): p. 629-648.
- 72. Appel, A.A., et al., *Imaging challenges in biomaterials and tissue engineering*. Biomaterials, 2013. **34**(28): p. 6615-6630.
- 73. Ajeti, V., et al., *Image-inspired 3D multiphoton excited fabrication of extracellular matrix structures by modulated raster scanning.* Optics express, 2013. **21**(21): p. 25346.
- 74. Ballyns, J.J. and L.J. Bonassar, *Dynamic compressive loading of image-guided tissue engineered meniscal constructs.* Journal of Biomechanics, 2011. **44**(3): p. 509-516.
- 75. Mather, M.L., et al., *Raman spectroscopy and rotating orthogonal polarization imaging for non-destructive tracking of collagen deposition in tissue engineered skin and tendon*, in *Optics in Tissue Engineering and Regenerative Medicine Iii*, S.J. Kirkpatrick and R.

Wang, Editors. 2009.

- 76. Ballyns, J.J. and L.J. Bonassar, *Image-guided tissue engineering*. Journal of Cellular and Molecular Medicine, 2009. **13**(8A): p. 1428-1436.
- 77. Ballyns, J.J., et al., *Image-guided tissue engineering of anatomically shaped implants via MRI and micro-CT using injection molding*. Tissue Engineering Part A, 2008. **14**(7): p. 1195-1202.
- 78. Smith, M.H., et al., *Computed tomography-based tissue-engineered scaffolds in craniomaxillofacial surgery*. International Journal of Medical Robotics and Computer Assisted Surgery, 2007. **3**(3): p. 207-216.
- 79. Varma, D.R., *Managing DICOM images: Tips and tricks for the radiologist*. Indian Journal of Radiology & Imaging. **22**(1): p. 4-13.
- 80. Pashkov, V. and A. Harkusha, *3-D bioprinting law regulation perspectives.* Wiadomosci Lekarskie. **70**(3 pt 1): p. 480-482.
- 81. Khan, R.J., et al., *Acute paraspinal compartment syndrome. A case report.* Journal of Bone & Joint Surgery American Volume. **87**(5): p. 1126-8.
- 82. Calvert, N., T. Bhalla, and R. Twerenbold, *Acute exertional paraspinal compartment syndrome*. ANZ Journal of Surgery. **82**(7-8): p. 564-5.