

Bugra Ayan

Postdoctoral Research Fellow, Cardiothoracic Surgery

Bio

PROFESSIONAL EDUCATION

- PhD, Penn State University , Engineering Science and Mechanics (2020)

STANFORD ADVISORS

- Ngan Huang, Postdoctoral Faculty Sponsor

Publications

PUBLICATIONS

- **Hybrid Bioprinting of Zonally Stratified Human Articular Cartilage Using Scaffold-Free Tissue Strands as Building Blocks** *ADVANCED HEALTHCARE MATERIALS*
Wu, Y., Ayan, B., Moncal, K. K., Kang, Y., Dhawan, A., Koduru, S., Ravnic, D. J., Kamal, F., Ozbolat, I. T.
2020: e2001657
- **Aspiration-assisted freeform bioprinting of pre-fabricated tissue spheroids in a yield-stress gel** *COMMUNICATIONS PHYSICS*
Ayan, B., Celik, N., Zhang, Z., Zhou, K., Kim, M., Banerjee, D., Wu, Y., Costanzo, F., Ozbolat, I. T.
2020; 3 (1)
- **Aspiration-assisted bioprinting of the osteochondral interface** *SCIENTIFIC REPORTS*
Ayan, B., Wu, Y., Karuppagounder, V., Kamal, F., Ozbolat, I. T.
2020; 10 (1): 13148
- **3D Bioprinting of Carbonyldiimidazole-Modified Gelatin into Microparticle-Suspended Oxidized Alginate for the Fabrication of Complex-Shaped Tissue Constructs** *ACS APPLIED MATERIALS & INTERFACES*
Heo, D., Alioglu, M., Wu, Y., Ozbolat, V., Ayan, B., Dey, M., Kang, Y., Ozbolat, I. T.
2020; 12 (18): 20295–306
- **Aspiration-assisted bioprinting for precise positioning of biologics** *SCIENCE ADVANCES*
Ayan, B., Heo, D., Zhang, Z., Dey, M., Povilianskas, A., Drapaca, C., Ozbolat, I. T.
2020; 6 (10): eaaw5111
- **Aspiration-assisted freeform bioprinting of prefabricated tissue spheroids in a yield-stress gel.** *Communications physics*
Ayan, B., Celik, N., Zhang, Z., Zhou, K., Kim, M. H., Banerjee, D., Wu, Y., Costanzo, F., Ozbolat, I. T.
2020; 3
- **Extrusion-based printing of sacrificial Carbopol ink for fabrication of microfluidic devices** *BIOFABRICATION*
Ozbolat, V., Dey, M., Ayan, B., Ozbolat, I. T.
2019; 11 (3): 034101
- **Squid Ring Teeth-coated Mesh Improves Abdominal Wall Repair** *PLASTIC AND RECONSTRUCTIVE SURGERY-GLOBAL OPEN*
Leberfinger, A. N., Hospodiuk, M., Pena-Francesch, A., Ayan, B., Ozbolat, V., Koduru, S. V., Ozbolat, I. T., Demirel, M. C., Ravnic, D. J.
2018; 6 (8): e1881
- **Sprouting angiogenesis in engineered pseudo islets** *BIOFABRICATION*
Hospodiuk, M., Dey, M., Ayan, B., Sosnoski, D., Moncal, K. K., Wu, Y., Ozbolat, I. T.

2018; 10 (3): 035003

- **3D Printing of PDMS Improves Its Mechanical and Cell Adhesion Properties** *ACS BIOMATERIALS SCIENCE & ENGINEERING*
Ozbolat, V., Dey, M., Ayan, B., Povidianskas, A., Demirel, M. C., Ozbolat, I. T.
2018; 4 (2): 682–93
- **Challenges in Bio-fabrication of Organoid Cultures** *CELL BIOLOGY AND TRANSLATIONAL MEDICINE, VOL 3: STEM CELLS, BIO-MATERIALS AND TISSUE ENGINEERING*
Peng, W., Datta, P., Wu, Y., Dey, M., Ayan, B., Dababneh, A., Ozbolat, I. T., Turksen, K.
2018; 1107: 53–71
- **Developments with 3D bioprinting for novel drug discovery** *EXPERT OPINION ON DRUG DISCOVERY*
Satpathy, A., Datta, P., Wu, Y., Ayan, B., Bayram, E., Ozbolat, I. T.
2018; 13 (12): 1115–29
- **Bone Tissue Bioprinting for Craniofacial Reconstruction** *BIOTECHNOLOGY AND BIOENGINEERING*
Datta, P., Ozbolat, V., Ayan, B., Dhawan, A., Ozbolat, I. T.
2017; 114 (11): 2424–31
- **3D bioprinting for drug discovery and development in pharmaceuticals** *ACTA BIOMATERIALIA*
Peng, W., Datta, P., Ayan, B., Ozbolat, V., Sosnoski, D., Ozbolat, I. T.
2017; 57: 26–46
- **Bioprinting for vascular and vascularized tissue biofabrication** *ACTA BIOMATERIALIA*
Datta, P., Ayan, B., Ozbolat, I. T.
2017; 51: 1–20
- **On-Chip Production of Size-Controllable Liquid Metal Microdroplets Using Acoustic Waves** *SMALL*
Tang, S., Ayan, B., Nama, N., Bian, Y., Lata, J. P., Guo, X., Huang, T.
2016; 12 (28): 3861–69