UCI 3DBOC CIRM-SRL
Bootcamp Schedule

August 11, 2025

10:00 AM - 10:30 AM	**Opening Remarks** Craig Walsh, Professor, Principal Investigator of CIRM-SRL Andrei Shkel, Associate Dean of Research and Innovation, Samueli School of Engineering Quinton Smith, Assistant Professor, Chemical and Biomolecular Engineering (CBE) *Engineering Hall 2430, colloquium room
10:30 AM - 11:30 AM	**Overview of Microfabrication Technologies** 10:30 – 11:05 AM, Lily Wu, Associate Professor, (CBE) 11:05 – 11:20 AM, Tayloria Adams, Associate Professor, (CBE) *Walk over to Engineering Gateway, and allow participants approximately 10 minutes to get dressed to enter facility by 11:30 AM
11:30 AM - 12:30 PM	**Tour of Integrated Nanosystems Research Facilities (INRF)** Lily Wu (CBE), Tayloria Adams (CBE), Emmanuel Egun (PhD student, Adams Lab) *Participants will be split into two groups and sessions will swap (30 minutes per group) Group A: W2321 – Scanning Electron Microscopy/ W2320 – Sample Preparation Group B: W2332 – Photolithography II / W2339 – Thin Film Deposition
12:30 PM - 1:15 PM	**Lunch** *Return to Engineering Hall, 2430
1:15 PM - 1:30 PM	**Walk to the Stem Cell Research Center (SCRC)** Yuan Chen (YC) Tsai (Postdoctoral Scholar, Watanabe Lab)
1:30 PM - 2:30 PM	**Considerations in Organoid Engineering** Momoko Watanabe, Assistant Professor, Molecular, Cell and Developmental Biology *Gross Hall, 4th floor conference room
2:30 PM - 3:30 PM	**Lab and SCRC Core Facility Tours** Yuan Chen (YC) Tsai, Vanessa Scarfone, Flow Cytometry Core Director, Anita Lakatos, CRISPR Core Manager * Concurrent sessions (2 groups, rotate after 30 minutes) 2:30 - 3:00 PM: Group A with FC/MC Core (15min)/ CRISPR Core (15min); Group B with Watanabe lab. 3:00 - 3:30 PM: Group B with FC/MC Core (15min)/ CRISPR Core (15min); Group A with Watanabe lab.
3:30 PM - 3:45 PM	**Formal Goodbye and Departure**

August 12, 2025

10:00 AM - 11:00 AM	**Applications of 3D Printing in Tissue Engineering** Assistant Professor, Quinton Smith, Chemical and Biomolecular Engineering (CBE)
11:00 AM - 12:00 PM	**Digital Light Processing (DLP)-Based and Extrusion-Based Printing** 11:00 - 11:10 AM, Nate Burmas, PhD student (Smith Lab) 11:10 - 11:20 AM, Natalie Celt, PhD student (Ardoña Lab) 11:20 - 11:30 AM, Harrison Jeong, PhD student (Ardoña Lab) 11:30 - 12:00 PM, Software Demonstration of Fusion 360 and G-code (Nate and Natalie) *Participants will be given worksheets with exercises on AutoCad software and basics of G-coding. Information on the design challenge will be presented here.
12:00 PM - 1:00 PM	**Lunch** *Engineering Hall, 2430
1:00 PM - 3:30 PM	**Demos and Laboratory Tours**

1:00 – 1:40 PM Cell Sorting and Adams Lab Tour
Jazmine Moore, Zuri Rashad, PhD Students (Adams Lab)
1:50 – 2:30 PM DEMO BioNOVA X Printing Demo and Smith Lab Tour
Nate Burmas, PhD Student, Mozhgan Keshavarz, Postdoctoral Scholar (Smith Lab)
2:40 – 3:10 PM DEMO BioX Printing Demo and Ardoña Lab Tour
Harrison Jeong, Natalie Celt, PhD Students (Ardoña Lab)
* Concurrent Sessions (3 groups , rotate every 40 minutes). Buffer time will be put in place to allow transition between tours. Kathryn Lee, PhD Student (Ardoña Lab), can assist with facilitating exchange between labs.

3:30 PM - 3:45 PM **Formal Goodbye and Departure**

August 13, 2025

10:00 AM - 11:00 AM **Next Generation 3D Printing (Biomaterial Insights)**
Herdeline (Digs) Ardoña, Assistant Professor, Chemical and Biomolecular Engineering (CBE)

11:00 AM - 1:00 PM **Lunch and Design Challenge**
*Participants will break up into groups of 5 and will create a design to address a challenging in tissue engineering leveraging 3D bioprinting. Participants will have the opportunity to use the extrusion and DLP printers. Designs will be uploaded to a GoogleDrive folder, and volunteers will facilitate chaperoned printing.

1:00 PM - 3:00 PM **Guided 3D Bioprinting**
Nate Burmas, PhD Student, Mozhgan Keshavarz, Postdoctoral Scholar (Smith Lab)
Harrison Jeong, Natalie Celt, PhD Students (Ardoña Lab)

*Each group will spend approximately 20 minutes at either the DLP or extrusion printer. As groups rotate, they can tinker their designs in Engineering Hall, as well as participate in the biomaterials station, exploring how pH, and concentration impact alginate hydrogel crosslinking.

3:00 PM - 3:30 PM **Closing Remarks and Exit Survey**

UCI Sue & Bill Gross Stem Cell Research Center