

# BME Design: Progress reports

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**Title:** Microvascular Channel Bioprinter shutoff valve

Date: 16 April 2026

Client: Dr. David Dean

Advisor: Dr. Paul Campagnola

Team:

- Dominique Gooden - *Co Team Leader*
- Steph Vigmond - *Communicator*
- Mahathi Karthikeyan - *formerly BSAC; now Co-Team Leader*
- Sophie Speece - *BWIG*
- Ana Toscano - *BPAG*

## Problem statement

Facilitate rapid switching between bioprinter input devices so that microchannels have rapidly decreasing diameter. Also come up with a shutoff mechanism to prevent excess fluid flow from valves.

## Brief status update

## Difficulties / advice requests

N/A

## Current design

See design matrix. In progress.

## Materials and expenses

Item	Description	Manufac-turer	Mft Pt#	Vendor	Vendor Cat#	Date	#	Cost Each	Total	Link
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Category 1										
	Flexible 80A IRE print					2/18/26	1	3.06	\$3.06	
	CEVIC locking mechanism					2/18/26	1	0.32	\$0.32	
	CEVIC locking mech - updated					2/19/26	1	0.24	\$0.24	
	Updated servo & CEVIC holder					2/26/26	1	0.15	\$0.15	
	Clip and Gear					3/17/26	1	0.13	\$0.13	
	Small KSMs					3/17/26	1	4.00	\$4.00	
	CEVIC Servo Connector with tapped holes					3/18/26	1	0.18	\$0.18	
Category 2										
									\$0.00	
									\$0.00	
								<b>TOTAL:</b>	<b>\$7.90</b>	

## Major team goals for the next week

## Next week's individual goals

- Dominique
  - Complete poster and final report sections
  - Rehearse presentations with team
- Ana
  - Complete poster and final report sections
- Sophie
  - Complete poster sections for Poster Presentation
- Steph
  - Complete & print poster
  - Work on presentation for poster
  - Divide up final report
- Mahathi
  - Complete poster
  - Look over results and analyze

### Timeline

Task	Jan	February				March				April					May
	29	5	12	19	26	5	12	19	26	2	9	16	23	30	7

<b>Project R&amp;D</b>																
Empathize																
Background...	X	X														
Prototyping																
Testings					X	X	X		X							
<b>Deliverables</b>																
Progress Reports	X	X	X	X	X	X	X	X	X	X	X	X				
Prelim presentation		X														
Final Poster																
<b>Meetings</b>																
Client		X		X		X										
Advisor	x	X	X	X	X	X	X	X	X	X						
<b>Website</b>																
Update	X	X	X	X	X	X	X	X	X	X						

Filled boxes = projected timeline  
 X = task was worked on or completed

## Previous week's goals and accomplishments

- Ana
  - Conducted integration testing with team
  - Team meeting
  - Worked on poster
- Dominique
  - Conducted integration testing with team
  - Team meeting
  - Spoke with Josh and Dr. Nimunkar about external power sources for motor
- Steph
  - Integration testing (2)
  - Met with team to divide up poster
  - Worked on poster
- Sophie
  - Met with team
  - Integration testing
  - 3D modelled changes to CEVIC-Servo connector after meeting with Josh to ensure that the design can integrate with the lab setup
- Mahathi
  - Finished integration testing
  - Divided poster
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## Activities

Name	Date	Activity	Time (h)	Week Total (h)	Sem. Total (h)
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Mahathi	April 10 April 11 April 15	integration testing Executive summary draft Met with team split up poster	6	6	31
Steph	April 10 April 12 April 14 April 16	Integration testing Edited Executive summary Team meeting Worked on poster	2 1.5 0.5 0.5	4.5	30.5
Dominique	10 April 14 April 14 April	Integration testing Team meeting Electronics work	3	3	>10
Sophie	04/09/26 04/10/26 04/14/26 04/15/26  04/16/26	Final Draft executive summary Integration Testing Team Meeting Training throughout the semester - OpenSim tutorial 3D modelling of CEVIC-Servo Connector	0.25 2 0.5 1.5  2	6.25	30.75
Ana	April 10 April 14 April 16	Conducted integration testing with team  Team meeting  Worked on poster	2 0.5 1	3.5	31