

UBC School of Biomedical Engineering



# SYNERGY RESEARCH DAY

AUGUST 17, 2023

## Trainee Poster List

*In partnership with:*



THE UNIVERSITY  
OF BRITISH COLUMBIA

Life Sciences Institute



THE UNIVERSITY  
OF BRITISH COLUMBIA

Michael Smith Laboratories



Djavad Mowafaghian  
CENTRE FOR BRAIN HEALTH

	<b>POSTER TITLE</b>	<b>PRESENTER</b>	<b>SUPERVISOR</b>
1	Improving Cis-Regulatory Neural Network Performance by Optimizing the Sequence Library of Massively Parallel Reporter Assays	Bjorn Holst	Carl de Boer
2	Quality Assessment of Cell Lineage Trees	Chaehyeon Lee	Nozomu Yachie
3	Hip Instability	Eric Song	David Wilson
4	Pulmonary CT to MRI image synthesis using generative adversarial networks	George Xu	Roger Tam
5	Impact of De-Identification of Demographic features on AI Methods	Hanna Khan	Ilker Hacihaliloglu
6	Microscale Molecular Gradients on Open Biological Surfaces	Jake Pringle	Govind Kaigala
7	What are players doing on the field? An analysis of player movements in Women's soccer	Jason Yuan	Calvin Kuo
8	Understanding the TGFb signaling in FAPs during chronic and acute damage	Jillian Feliciano	Fabio Rossi
9	Inside and Out: A Modular Cell Surface Reporter for Tracking Intracellular Transcription Factor Activity During T-Cell Differentiation from Induced Pluripotent Stem Cells	Katrina Jewell	Peter Zandstra
10	3D bioprinting retinal graft to create multi-layer, custom patterned implants for the treatment of retinal-based blindness	Margaret Javier	Christopher Laver
11	Clonal dynamics of acute myeloid leukemias in mouse models	Maria Stephenson	Aly Karsan
12	Understanding the neural mechanisms of spatial navigation and cognitive mapping through an engineering perspective	Matin Narimani	Manu Madhav
13	Immune Contexture and Differentiation Role in Bladder Cancer Characterization	Nikolay Alabi	Ali Bashashati
14	Type-2 innate immune signals are dispensable for muscle regeneration and progression of Duchenne muscular dystrophy pathology in mdx mice	Omar Husain Syed	Kelly McNagny
15	Development of a Signal Processing Tool in Rust	Ghazal Fallahpour	Babak Shadgan



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16	Identification and characterization of conditions supportive of human fetal hematopoietic stem cells	Keheng (Tina) Wang	Connie Eaves
17	Development and Testing of a Disposable and Reusable Cattle Breath Nostril Sampler for Rapid Breath Sampling	Qide Ma	Jane Hill
18	The Development and Design of an Omnidirectional Surrogate Neck for Impact Testing	Sabine Lim	Peter Cripton
19	The Effect of Physical Activity on In-Vivo Passive Stiffness in the Lumbar Spine	Joshua Lowery	Kayla Fewster
20	Comparative Assessment of <sup>111</sup> In-Octreotide Scintigraphy, <sup>68</sup> Ga-DOTATOC PET/CT and <sup>18</sup> F-FDG PET/CT in the Staging and Management of Neuroendocrine Tumors	Ali Zaidi	Jonathan Loree
21	Investigating Enhancer Function through dCas9 CRISPRa	Jennifer Mitchell	Sheila Teves
22	Rare ASD Gene Variant Analysis - PTPN11 and TCF4	Graeme McIntosh	Douglas Allan
23	In-Vivo Neuronal Imaging to Characterize ASD Associated SYNGAP1 Variants	Maiara Burgess	Kurt Haas
24	TBISeq - A Spatial Transcriptomics Atlas of the Mouse Brain Following Traumatic Brain Injury	Aditya Swaro	Mark Cembrowski
25	Knocking Out Mouse Podocalyxin in 4T1 Cells	Aileen Liman	Pamela Dean & Julyanne Brassard
26	Quantification of INS Gene Activity in Insulin-Producing Cells	Bhavya Sabbineni	James Johnson
27	Evaluating Sex-Biased Roles of Insulin Signaling in establishing Diet-Induced Obesity in <i>D. melanogaster</i>	Joyce Xi	Elizabeth Rideout
28	Mining Novel Internal Ribosome Entry Sites from the Earth's Virome for Efficient Translation of Synthetic Circular RNA	Shao (Steve) Wang	Eric Jan
29	Metabolomic Profiling for Identification of Key Discriminant Compounds in Different Classes of Honey	Sofia Colmenares	Leonard Foster



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30	Development of a modular chimeric antigen receptor for cancer immunotherapy	Edward Melynk	Peter Zandstra
31	Engineering collective cell behaviour during differentiation	Joelle Fernandes	Peter Zandstra
32	Constructing iNKT T Cell Receptor Library for generating iNKT Cell-based immunotherapy	Karina Akhmedova	Peter Zandstra
33	Gender Relationships to Paths into and out of a Biomedical Engineering Program	Krishma Singla & Misato Law	Agnes d'Entremont and Dr. Karen Cheung; Negar Harandi
34	Evaluating methods for automated quantification of pluripotent stem cells in 2D and 3D cultures	Göksu Dilek	Peter Zandstra
35	Evaluating Changes in STEM Identity Amongst Participants in a STEM Outreach Program	Mehmooda Evelyn-Piprawala, Naomi Endale & Shouka Farrokh	Agnes d'Entremont
36	Microbial signals sculpt type 2 immune responses by enhancing ILC2 effector functions and controlling innate IgE production from B1 cells	Natalia Nayyar	Kelly McNagny
37	Identification of new phenotypes and in vitro assays that characterize the process of human lymphoid lineage separation from the neutrophil/monocyte lineages	Piyush Awasthi	Connie Eaves





# ABOUT SBME SYNERGY

SBME SYNERGY is our Undergraduate Summer Research Program, running May-August 2023. Participating undergraduate students have the opportunity to get hands-on research experience with researchers from the Life Sciences Institute (LSI), the Michael Smith Laboratories (MSL), the Djavad Mowafaghian Centre for Brain Health (DMCBH), the International Collaboration on Repair Discoveries (ICORD), the Genome Science and Technology Graduate Program (GSAT), and of course, SBME.

SBME Synergy awards are open to all undergraduate and medical students.

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