

4:36—4:41 pm
Hannah Rasmussen (J. Hoggatt / T. Tate / D. Scadden)
Novel Therapeutics to Enhance Bone Marrow Transplantation

4:42—4:47 pm
Arianna Rech (A. Choudhuri / L. Zon)
Interaction between lineage and signalling transcription factors in the differentiation of erythrocytes

4:48—4:53 pm
Dominick Zheng (J. Rivera-Feliciano / E. Rosado-Olivieri / D. Melton)
A Screen to Identify Novel Secreted Effectors of Activin A in Definitive Endoderm Induction

4:54—5:00 p.m.
Closing remarks
Willy Lensch

5:00—5:25 pm **POSTER PREVIEW and REMOVAL**

5:30—7:30 p.m.

Celebratory Dinner
Cambridge Queen’s Head Pub
Mentors and PIs invited



ELEVENTH ANNUAL UNDERGRADUATE
INTERNSHIP SYMPOSIUM

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Harvard Stem Cell Institute
Internship Program (HIP)

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Faculty Co-Directors
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William Anderson, PhD

Administrative Director:
Maureen Herrmann, EdM

*The Harvard Stem Cell Institute
extends its sincere thanks to the
undergraduate internship
selection committee
and to the participating
lab mentors, PIs and faculty guests.*

*This program would not be
possible without your support,
engagement and encouragement.*



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THURSDAY
13 AUGUST 2015



HARVARD UNIVERSITY
MAXWELL-DWORKIN
ROOM G115
33 OXFORD STREET
CAMBRIDGE, MA USA

PROGRAM SCHEDULE

10:45 am Welcome and introduction
M. William Lensch, PhD | Faculty Co-Director

GROUP A

11:00—11:05 am
Centura Anbarasu (S. Rowbotham /C. Kim)
Investigating the Role of G9a and Glp in Lung Stem Cells and Lung Tumor Progression

11:06—11:11 am
Brenda Briones Miranda (F. Sher / D. Bauer)
Investigating mechanisms whereby noncoding genetic variation influences blood cell traits in a human immortalized hematopoietic stem/progenitor cell line

11:12—11:17 am
Gabrielle Crobsy (D. Carlone / M. Shah / D. Breault)
Understanding the role of mTert+ cells in tooth development

11:18—11:23 am
Laura Hyder (D. Shah)
Analyzing Pharmacological Targets Stimulating Endothelial Emergence of Hematopoietic Stem Cells

11:24—11:29 am
Se-Jin (Joyce) Kim (S. Balbach / S. Orkin)
The role of EZH2 in alveolar rhabdomyosarcoma cells

11:30—11:35 am
Polina Krivvykh (B. Singh / E. Buttermore / C. Woolf)
Cancer Chemotherapy-induced Peripheral Neuropathy Phenotypic Screen

11:36—11:41 am
Irene Wong (Y-F. Lu / R. Sugimura / G. Daley)
Ectopic Expression of Combinatorial Transcription Factors Confers Formation of Hematopoietic Progenitors from iPSCs

11:42—11:47 am
Anna Zhao (S. Morris / G. Rowe / G. Daley)
Interrogating the Role of Circadian Rhythm in Leukemogenesis and Hematopoiesis

11:48—11:53 am
Lauren Otto (C. Leung / F. Slack)
Analysis of the transcriptional regulation of let-7 in C. elegans

11:54—11:59 am
Cho Han Chiang (M. Saxena / R. Shivdasani)
Title

12:00—12:05 pm
Connor Kenny (M-J. Kim/ T. Serwold)
Generating a Novel in vitro Culture System for Functional Thymic Epithelial Cell Progenitors

12:06 —12:52 pm POSTER PREVIEW & light lunch

GROUP B

12:55—1:00 pm
May Barakat (A. Brodovskaya / J. Whited)
Characterizing Vascularization Within the Regenerating Axolotl Limb

1:06—1:11 pm
Anastasia Brodovskaya (M. Barakat / J. Whited)
Visualizing Limb Vascularization in Regenerating and Homeostatic Axolotl Limbs

1:12—1:17 pm
Edgar Garcia (R. Morizane / A. Lam / N. Gupta / J. Bonventre)
Modeling Kidney Injury and Fibrosis in Nephron Organoids Derived from hPSCs

1:18—1:23 pm
Alejandra Lerma-Ortiz (Y. Xie / Z. Li)
CRISPR/Cas9-based Lineage Tracing System by Introducing Random Indel Mutations in Rosa26 or AAVS1

1:24—1:29 pm
Kimberly Ma (A. Cox / M. Fort / A. Tismodes / W. Goessling)
Role that the Hippo pathway effector Yap plays in metabolic reprogramming during development

1:30—1:35 pm
Colin Marts (T. Poggioli / R. Lee)
Producing Bivalent Neuregulin for use as a therapy in a chronic heart failure model

1:36—1:41 pm
Arifeen Rahman (S. Carroll / R. Lee)
Characterizing the role of ARRDC3 in regulating glucagon signaling in the liver

1:41—1:46 pm
Daniel O’ Brian (B. Banerjee / R. Sherwood/ R. Maas)
Genotyping of cells in a cancer population using a dCas9 directed version of the split Venus system

1:47—1:52 pm
Steven Ryu (C. Muratore / T. Young-Pearse)
Characterizing Neural Development in a DISC1 Disruption Model in Cerebral Organoids

1:53—1:58 pm
Grant Sprow (M. Grinstein / J. Galloway)
Tendon Cell Proliferation in Mus Musculus and the Identification of Distinct Tendon Cell Populations

2:00—2:30 pm POSTER PREVIEW & refreshments

GROUP C

2:30—2:35 pm
Ameed Abualteen (K. Daneshvar / J. Pondick / A. Mullen)
Cas9-Mediated Programming of Human Embryonic Stem Cells Towards Endoderm

2:36—2:41 pm
Pakanat Dechartanachart (K. McAvoy / A. Sahay)
Impact of Modulating Competition Dynamics of Adult-born Neurons on Hippocampal Afferent Connectivity

2:42—2:47 pm
Alexia Zagouras (N. Guo/ A. Sahay)
Examining the Role of Klf9 in Regulation of Activation and Quiescence of Neural Stem Cells in the Adult Hippocampus

2:48—2:53 pm
Petros Fessas (J. Pereira / D. Moakley / B. Wainger)
The effects of SOD1 A4V expression on the transcriptional profile of iPS-derived motor neurons

2:54—2:59 pm
Caroline Moran (T. Gallegos / I. Drummond)
Morphogen Interactions during Zebrafish Kidney Regeneration

3:00—3:05 pm
Steven Toffel (B. Watmuff / R. Karmacharya)
Optimization of dendritic spine labeling with the carbocyanine dye Dil and immunohistochemistry



Posters on view between each session break

3:06—3:11 pm
Sarah Kassenaar (J. Kempfle / A. Edge)
Histological Analysis of the Role of Sox2 During Inner Ear Development

3:12—3:17 pm
Nora Torres (J. Moore / Q. Tang / D. Langenau)
Zap70 mutant zebrafish: an immune compromised transplantation model

3:18—3:23 pm
Anirudh Udutha (Y. Zhu / K. Shah)
Developing Therapeutic Stem Cells to Simultaneously Target Cell Proliferation and Death Pathways in Glioblastomas

3:24—3:55 pm POSTER PREVIEW

GROUP D

4:00 — 4:05 pm
Lloyd Chen (A. Crespo / A. van der Zwan / T. Tilburgs / J. Strominger)
Characterization of HLA-C expression in Human extravillous trophoblasts

4:06—4:11 pm
Jason Cheng (M. Tabebordbar / A. Wagers)
CRISPR/Cas9-Mediated Exon-Skipping to Treat Duchenne Muscular Dystrophy

4:12—4:17 pm
Luke Demas (/ Y-C. Hsu)
The Role of Adipogenic Sonic Hedgehog Signaling in Skin Development

4:18—4:23 pm
Danielle Feffer (N. Baryawno / D. Scadden)
Defining driver genes for cancer metastasis via a pooled cDNA in vivo screen

4:24—4:29 pm
Dani Keahi (T. Ahfeldt / L. Rubin)
Analysis of the role of NeuroD6 in the specification of midbrain dopaminergic neuron subsets and potential neuroprotectivity against Parkinson’s disease pathology

4:30—4:35 pm
Priyanka Kumar (K. Ozkan / H. Padmanabhan / J. Macklis)
Directed differentiation of corticospinal motor neurons from endogenous progenitors using modified RNA