

4:18—4:23 pm

Victoria Chan—Harvard (A. Choudhuri / L. Zon)
Cooperation of BMP signaling and GATA transcription factors to define stages of erythroid differentiation

4:24—4:29 pm

Michael Lauricella—Harvard (A. Burberry / J. Klim / P. Tripathi / D. Mordes / K. Eggan)
The C9ORF72 expansion dipeptide repeats elicit an autoimmune-like response from murine bone marrow derived microphages

4:30—4:35 pm

Michael Liu—Harvard (J. Hatch / Y. Itoh / J. Macklis)
Investigating the Role of KFM1 and Microglia in the Segmental Targeting of Corticospinal Motor Neurons

4:36—4:42 pm

Hueyjong Shih—Harvard (A. Groff / J. Rinn)
Validating the Enhancer Activity of the Long Non-Coding RNA Linc-p21

4:43—4:48 pm

Kruti Vora—Harvard (T. Meissner / C. Cowan)
Enabling natural killer cell tumor immunotherapy using CRISPR/Cas9 inhibitory receptor deletion

4:49—5:00p.m.

Closing remarks
Willy Lensch and Bill Anderson

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



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TWELFTH ANNUAL UNDERGRADUATE INTERNSHIP SYMPOSIUM

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PROGRAM SCHEDULE



Posters on view between
each session break

11:00 am Welcome and introduction

M. William Lensch, PhD & William Anderson, PhD

Faculty Co-Directors

GROUP A

11:15—11:20 am

Lyle Dershowitz—Harvard (J. Moore/Q. Tang/D.

Langenau)

Generation and Identification of Novel CRISPR/Cas9 Mediated Immune Compromised Zebrafish Mutants

11:21—11:26 am

Charlotte Herber—Yale (N. Guo / A. Sahay)

Roles of Krüppel-like Factor 9 (Klf9) and Actin-binding LIM Protein 3 (abLIM3) in Neural Stem Cell Homeostasis and Circuit Integration in the Adult Hippocampus

11:27—11:32 am

Alvar Paris—Univ. of Cambridge (K. McAvoy / A. Sahay)

Investigation into the Roles of CA3c, CA2 and the Entorhinal Cortex in Pattern Separation and Completion in Spatial Memory Encoding

11:33—11:38 am

Gabriel Onor—Harvard (M. Grinstein / N. Ameerappa /

A. Craft / J. Galloway)

Directed Differentiation of Tendon

11:39—11:44 am

David Seong—Harvard (K. Yanger/J. Rajagopal)

Cdc42 Determines Cellular Differentiation in Regenerating Airway Epithelium

11:45—11:50 am

Nikita Shah—Harvard (D. Hu / I. Domian)

The Role of CCBE1 in the Differentiation and Proliferation of Human Embryonic Stem Cell Derived Cardiomyocytes

11:51—11:56 am

Timmy Suh—Williams (S.H. Choi /K. Shah)

Engineering bimodal human adipose-derived mesenchymal stem cells (MSCs) targeting IL-13R α 2 and DR4/5 in glioblastoma multiforme (GBM)

11:57 am—12:02 pm

Dawn Truong—Harvard (E. Li / E. C-W. Liao)

Identifying Critical Downstream Genes of Irf6 in Zebrafish

12:03—12:08 pm

Devon Wasche—Wofford (N. Novikov / W. Pu / C. G. Burns /

C. Burns)

In vivo relevance of Ets-1 acetylation in VEGF-mediated embryonic angiogenesis

12:09-12:14 pm

Michael Rohly—Columbus State University (T. Gallegos /

I. Drummond)

Spatiotemporal Expression Profiles of fgf4 and fgf8 Signaling Molecules During Injury-mediated Regeneration in the Zebrafish Mesonephros

12:14 —12:59 pm POSTER PREVIEW & light lunch

GROUP B

1:00—1:05 pm

Joel Bateman—Harvard (K. Johnson / T. DiTommaso / W. Ye /

D. Bryant / T. Lee / B. Haas / J. Whited)

Proliferative responses and the wound epidermis: the role of natterin in axolotl limb regeneration

1:06—1:11 pm

Isabelle Iversen—Harvard (O. Weeks / W. Goessling)

The role of the nuclear receptor Irh-1 in fetal alcohol spectrum disorders

1:12—1:17 pm

Thomas Rodriguez—UC Riverside (P. Wrighton / W. Goessling)

Developing an Alcohol Model to Determine the Importance of YAP Signaling During Liver Injury

1:18—1:23 pm

Christian Shigley—Harvard (A. Mahmoud / K. Phu / R. Lee)

Identifying the Mechanisms of Sarcomere Disassembly during Heart Regeneration

1:24—1:29 pm

Constance Zhou—Harvard (C. Muratore / V. Lagomarsino /

W. Taylor / T. Young-Pearse)

Using iPSC-derived neurons to model cell fate-specific effects of Alzheimer's disease

1:30—1:35 pm

Oleksandr Dmytrenko—St. Olaf (S. Nandakumar /

V. Sankaran)

Efficient Modulation of Gene Expression in Human Hematopoietic Stem and Progenitor Cells by CRISPR Interference

1:36—1:41 pm

Yao Chang Tan—UCLA (K. Murata / R. Shivdasani)

Contributors of Intestinal Stem Cell Regeneration

1:42—1:47 pm

Halima Yusuf—Univ. of Edinburgh (C. Reynolds /

M. Chammas / S. Chamling Rai / F. Abdi / A. Weber / J. Ritz)

Immune reconstitution in patients receiving bortezomib-based graft-versus-host disease prophylaxis regimens prior to allogeneic hematopoietic stem cell transplantation (HSCT)

1:48—1:53 pm

Luke Lynch—Lenoir-Rhyne Univ. (J. Haswell / F. Slack)

Exploiting Synthetic Lethal Relationships within the SWI/SNF Chromatin Remodeling Complex via miRNAs

1:54 —2:29 pm POSTER PREVIEW

GROUP C

2:30—2:35 pm

Anand Chukka—Washington Univ. (M. Hoban /P. Schupp /

G. Butler / D. Bauer)

Using CRISPR-Cas9 Genome Editing to Investigate BCL11A Enhancer Variants Associated with Fetal Hemoglobin Level

2:36—2:41 pm

Vianne Gao—Carleton College (MD. Almamun/A. Ghamari/

A. Cantor)

Investigating the Role of ANKRD26 Gene in the Development of Megakaryocytes

2:42—2:47 pm

Lucy Gao—Univ. of Pennsylvania (C. Richmond/H. Rickner/R.

Montgomery/D. Carlone/D. Breault)

Characterization of the Stem/Progenitor Potential of Mouse Intestinal Perinatal Enterospheres (PENS)

2:48—2:53 pm

Youngeun Kim—Johns Hopkins (S. Rowbotham/C. Kim)

Identifying Regulator of Cancer Stem Cell Like Tumor-Propagating Cells (TPCs) via Screening of Small Molecule Libraries

2:54—2:59 pm

Pablo Rosado—Univ. of Puerto Rico (S. Shalhout /

F. Camargo)

Small Molecule Discovery to Target and Modulate the Hippo Pathway

3:00—3:05 pm

Yuebo Yang—Univ. of Victoria (P. Williams /Z. He)

Screening Ultraconserved Enhancers for Specific Cell/Region-type Labeling using the AAV.PHP.B Virus

3:06—3:11 pm

Ange Uwimana—Marist College (M. Gupta / D. Pithadia /

K. Corrapi / N. Jackson / R. Kulkarni)

Role of leptin in pluripotency and lineage determination of pluripotent stem cells

3:12—3:17 pm

Siddharth Doshi—Univ. of New South Wales (S. Musah /

D. Ingber)

Effect of cyclic uniaxial strain and fluid shear stress on the differentiation of human iPS cells

3:18—3:23 pm

Maureen Rakovec—Columbia (B. Zhang / M. Gonzalez-

Celeiro/ Y-C. Hsu)

The fate of Mx1+ cells in the murine hair follicle niche throughout the hair cycle

3:24 —3:59 pm POSTER PREVIEW & refreshments

GROUP D

4:00 — 4:05 pm

Adrija Darsha—Brown (S. Khan / R. Xu / Y. Yang)

The Role of Gas in the Osteogenic Differentiation of Mesenchymal Progenitors

4:06—4:11 pm

Chun-Chen Yao—Nat'l. Taiwan Univ. (K. Wilk/S-C. A. Yeh/

G. Intini)

Prx1⁺ cells in coronal suture of the Twist1^{fl/c} craniosynostosis mouse model

4:12—4:17 pm

Daniel Shen—Harvard (B. Banerjee / R. Sherwood)

Investigating the Nature of Transcriptional Elements with CRISPR-dCas9 Activation Systems