

4:09—4:14 pm

**Min Jin Lee** ( L. Challet Meylan / C. Cowan)

*Modeling insulin resistance in human pluripotent stem cell-derived endothelial cells*

4:15—4:20 pm

**K. Yanick Mulumba** ( T. Meissner / C. Cowan )

*Preventing autoreactivity and T-cell inhibition of CAR T cells*

4:21—4:26 pm

**Danielle Reny** ( A. Rigamonti / L. Rubin)

*Directed differentiation of motor neurons in spin culture*

4:27—4:32 pm

**Dennis Sun** ( R. Amamoto / P. Arlotta )

*Response to ectopic proliferation induction in the axolotl brain*

4:33—4:43 p.m.

**Closing remarks**

**Willy Lensch**

4:45—5:15 pm **POSTER PREVIEW and REMOVAL**



5:30—8:00 p.m.

**Celebratory Dinner**  
**Cambridge Queen's Head Pub**  
**Mentors and PIs invited**



**Contact  
Information**

Harvard Stem Cell Institute  
Bauer Building  
Administrative Suite  
7 Divinity Avenue  
Cambridge, Massachusetts 02138 USA  
+1 617 496 6647  
E-mail: [hsci@harvard.edu](mailto:hsci@harvard.edu)  
[www.hsci.harvard.edu](http://www.hsci.harvard.edu)

**Harvard Stem Cell Institute  
Internship Program (HIP)**

Scientific Co-directors:  
*Douglas A. Melton, PhD* (Harvard)  
*David Scadden, MD* (MGH/Harvard)

HSCI Executive Director:  
*Brock Reeve, M.Phil., MBA*

Faculty Co-Directors  
*M. William (Willy) Lensch, PhD* and  
*William Anderson, PhD*

Program and Administrative Director:  
*Maureen Herrmann, EdM*

**TENTH ANNUAL UNDERGRADUATE  
INTERNSHIP SYMPOSIUM**

**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.***



***HIP 2014 has been made***  
***possible, in part, due to the***  
***generous financial support of***

**Biogen Idec**  
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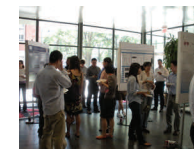
**FRIDAY**

**15 AUGUST 2014**



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

# PROGRAM SCHEDULE



Posters on view between  
each session break

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

## GROUP A

11:00—11:05 am  
**Shannen Kim** ( K. McAvoy / A. Sahay )  
*Mechanistic insights into the role of neuronal competition in regulating adult hippocampal neurogenesis*

11:06—11:11 am  
**Wendy Feng** ( A. Besnard / A. Sahay )  
*Adult hippocampal neurogenesis gates the balance between pattern separation and pattern completion*

11:12—11:17 am  
**Jonathan Jou** ( R. Shah / J. Galloway )  
*Characterizing the transcription pathways in developing and injured zebrafish tendon*

11:18—11:23 am  
**Max Frenkel** ( K. Daneshvar / A. Mullen )  
*Guilt by association: Ribonucleoprotein complexes of ID1 long non-coding RNA in endodermal differentiation*

11:24—11:29 am  
**Elizabeth Miller** ( F. Mercier / D. Scadden )  
*Modeling clonal evolution in acute myeloid leukemia*

11:30—11:35 am  
**Sophia Reeder** ( M. Ignatius / D. Langenau )  
*A role for Notch in rhabdomyosarcoma*

11:36—11:41 am  
**Alexa Roemmich** ( S. Batts / Z-Y. Chen )  
*Isolation of adult mouse inner ear stem cells and progenitors*

11:42—11:47 am  
**Jamasb Sayadi** ( W. Zhao / M. Mannstadt )  
*Directed differentiation of ES and iPS cells towards parathyroid cells*

11:48—11:53 am  
**Ivan Seah** ( D. Wanlu / K. Shah )  
*Stem cell loaded oncolytic viral therapies for metastatic tumors to the brain*

11:54—11:59 am  
**Berke Sengun** ( J. Iaconelli / R. Karmacharya )  
*Modulation of  $\beta$ -catenin with HDAC inhibitors in neuronal cells*

12:00—12:05 pm  
**Chu Thi Hien Thu** ( L. Carvalho / L. Vandenberghe )  
*Investigating the effect of HSPGs primary receptors on retinal transduction using adeno-associated viral vectors*

## 12:07 —12:37 pm POSTER PREVIEW & light lunch

## GROUP B

12:38—12:43 pm  
**Abderhman Abubashem** ( S. Senyo / R. Lee )  
*New approaches to lineage mapping in the mammalian heart*

12:44—12:49 pm  
**Francisco Galdos** ( A. Mahmoud / R. Lee )  
*Identification of pancreatic extracellular factors for maintenance of beta cell maturity*

12:50—12:55 pm  
**Adam Pissaris** ( J-H. Lee / C. Kim )  
*Investigating the role of TSP1 in alveolar-directed differentiation of bronchioalveolar stem cells*

12:56—1:01 pm  
**Juliana Castrillon** ( D. Carlone / D. Breault )  
*Pinpointing telomerase as a MSC biomarker*

1:02—1:07 pm  
**Elizabeth Cheeseman** ( A. Tsytsykova / M. Armant / L. Silberstein )  
*In vitro labelling of bone marrow and lung derived mesenchymal stromal cells*

1:08—1:13 pm  
**Aaron Cheng** ( V. Gaun / P. Fraenkel )  
*Identifying new regulators of iron homeostasis*

1:14—1:19 pm  
**Ernie Doherty** ( S. Shu / K. Polyak )  
*The JQ1 resistance mechanism in triple negative breast cancer*

1:20—1:25 pm  
**Natalie Florescu** ( S. Elf / A. Mullally )  
*Mutant CALR IL3-independence in BaF3/MPL Cells*

1:26—1:31 pm  
**Mike Fort** ( K. Hwang / A. Cox / W. Goessling )  
*The role of the Hippo pathway in early zebrafish hepatobiliary development*

## 1:32—1:55 pm POSTER PREVIEW

## GROUP C

2:00—2:05 pm  
**Megan Barefoot** ( U. Jadhav / R. Shivdasani )  
*The role of EED in the PRC2 complex on the differentiation and proliferation of intestinal stem cells*

2:06—2:11 pm  
**Richard Giadone** ( A. Ghamari / A. Cantor )  
*Investigating ubiquitin mediated regulation of GATA switches during erythro- and megakaryopoiesis*

2:12—2:17 pm  
**Jasleen Grewal** ( S. Ho Sui / W. Hide )  
*Studying zebrafish hematopoiesis using PathPrint—an R package for pathway level analysis of gene expression data*

2:18—2:23 pm  
**Emily Harris** ( Y-J. Kang / C. Yan )  
*Validating key genes associated with glioblastoma formation and progression*

2:24—2:29 pm  
**Kameron Kooshesh** ( R. Sherwood / R. Maas )  
*Pioneer transcription factors, genome editing, and transcriptional regulation: Native interrogation of gene regulatory region function via CRISPR/Cas*

2:30—2:35 pm  
**Sedona Murphy** ( M. Kim / S. Vazquez / T. Serwold )  
*Identifying essential transcription factors that establish the phenotype of thymic epithelial cells*

2:36—2:41 pm  
**Duy Nguyen** ( D. Doupe / N. Perrimon )  
*Inducing cell-type specific knockouts of genes of interest using CRISPR*

2:42—2:47 pm  
**Promise Okeke** ( J. Lu / P. Lerou )  
*Regulation of alternative splicing in ataxia telangiectasia iPS cells and derivatives*

2:48—2:53 pm  
**Caroline Arellano-Garcia** ( Z. Castaño / S. McAllister )  
*Understanding the systemic interactions between cancer stem cells and non-cancer stem cells*

2:54—2:59 pm  
**Bing Shui** ( S-M. Cheong / X. He )  
*Identifying function of novel transcription factor B15 in Wnt signaling pathway using intestinal stem cell organoid culture*

## 3:05—3:25 pm POSTER PREVIEW & refreshments

## GROUP D

3:30—3:35 pm  
**Sahil Agrawal** ( P. Tripathi / Q. Zhou )  
*Strategies to facilitate neuronal survival and regeneration following spinal cord injuries*

3:36—3:41 pm  
**Michael Drum** ( D. Fass / S. Haggarty )  
*Discovering physiological targets of TCF4*

3:42—3:50 pm  
**Bridget Gosis** ( K. Musunuru / K. Musunuru )  
*The role of HERG, KCNQ1, and SCN5A ion channels in inherited and acquired Long QT Syndrome*

3:51—3:56 pm  
**Melody Guan** ( A. Veres / D. Melton )  
*Developing a functional assay for monitoring insulin production by beta cells using a luciferase reporter*

3:57—4:02 pm  
**Stephanie Hadley** ( D. Ben-Zvi / D. Melton )  
*The effects of estrogen and circadian rhythm pathways on the differentiation of human embryonic stem cell-derived beta cells*

4:03—4:08 pm  
**Jonathan Li** ( J. Rivera-Feliciano / D. Melton )  
*Derivation of haploid stem cell lines from human sperm*