



2015 Developmental &
Stem Cell Biology
Symposium
May 6 Genome
Sciences
Building

University of North Carolina
at Chapel Hill



Schedule

All seminars are in room G200. Registration, breakfast, and lunch will take place in the GSB Lobby/G10.

8:30 am Registration and breakfast

9:20 am Introduction

9:30 am **Dr. Alejandro Sánchez Alvarado:** The developmental plasticity of the planarian *Schmidtea mediterranea*

10:30 am **Dr. Anne Brunet:** The African turquoise killifish: A new vertebrate model for studying aging and evolution of lifespan

11:30 am Posters (Genomic Café & GSB Lobby)

12:30 pm Lunch

1:30 pm **Dr. Nipam Patel:** Development and evolution of arthropod diversity

2:30 pm **Dr. Deborah Yelon:** Sculpting the heart: Dynamic regulation of organ dimensions

3:30 pm Closing remarks and poster awards

Speakers

Dr. Alejandro Sánchez Alvarado

Howard Hughes Medical Institute Investigator at Stowers Institute for Medical Research

Dr. Sánchez Alvarado's lab seeks to identify and study the molecular components involved in metazoan regeneration using a freshwater planarian as a model system. He was named a National Academy of Sciences Kavli Fellow (2008) and an Ellison Medical Foundation Senior Scholar (2009) for his outstanding contributions to the understanding of the roles of Wnt signaling and chromatin-associated factors in regeneration. These honors are in addition to being a recipient of the National Institutes of Health MERIT Award (2009).

Dr. Anne Brunet

Professor of Genetics at Stanford School of Medicine

Since Dr. Brunet began her lab in 2004, her lab's research has focused on the role of FOXO transcription factors in aging and longevity. She has received an NIH Director Pioneer Award (2012) and a NARSAD Young Investigator Award (2009) for her outstanding research, and her contributions to the fields of aging and regeneration have been recognized and acknowledged with the receipt of the California Institute of Regenerative Medicine New Faculty Award and the Bennett J. Cohen Award for research in aging.

Dr. Nipam Patel

William V. Power Endowed Chair in Biology; Professor, Molecular and Cell Biology; Integrative Biology at UC Berkeley

Dr. Patel's lab studies the links between evolution and development, focusing on embryonic pattern formation in multiple model systems, including *Drosophila melanogaster* and arthropods. His pioneering work on the role of Hox genes in body segmentation led to many accolades including HHMI investigator and a member of the NIH Developmental Biology Expert Panel. As well as serving on the editorial board for many journals, Dr. Patel was also co-director for the Woods Hole Embryology Course.

Dr. Deborah Yelon

Herbert Stern Chair in Biology; Professor and Vice Chair of the Cell and Developmental Biology section of UC-San Diego's Division of Biological Sciences

Dr. Yelon's lab uses the unique arsenal of genetic and embryological techniques available in zebrafish to investigate the molecular mechanisms that control early heart morphogenesis. She began to study heart development in zebrafish with Didier Stainier at UC-San Francisco as a Life Sciences Research Foundation postdoctoral fellow. Since starting her lab in 2000, she has received Burroughs Wellcome Fund Career and American Heart Association Established Investigator Awards for her contributions to biology and the field of heart development.

Posters

1. Vincent Boudreau
UNC *A genetic view of metazoan mitotic exit through Protein Phosphatase 2A*
2. Kevin Byrd
UNC *LGN/GPSM2 Controls Cellular Division Orientation in Developing Murine Oral Epithelia*
3. Rita Meganck
UNC *Development of snRNA reporter genes to investigate the role of PHAX in snRNP biogenesis*
4. Leslie Kennedy
UNC *A Novel Tbx20/Casz1 Transcriptional Complex is Essential for Cardiac Function*
5. Jinhu Wang
Duke *Epicardial regeneration is guided by cardiac outflow tract and Hh signaling.*
6. Jessica Nesmith
UNC *FLT1 Regulation of Blood Vessel Anastomosis*
7. Michael O'Connell
NC State *Background subtraction via nuclear Cactus increases the signal-to-noise ratio of the Dorsal gradient*
8. Melissa Pickett
NC State *A Novel Non-Neuronal Role of Acetylcholinesterase in Intestinal Development*
9. Anne-Marie Ladouceur
UNC *Chromosome length scaling to cell size*
10. Jingli Cao
Duke *Ex vivo approaches to study epicardial regeneration in zebrafish*
11. Erin Sparks
Duke *A Root-Enriched Transcriptional Network Uncover Novel Regulation of SHORTROOT and SCARECROW Expression in Arabidopsis*
12. Nicholas Gomez
UNC *The chromatin landscape of stem cells confers a permissive environment for cancer development*
13. Colleen Drapek
Duke *Defining Novel Differentiation Networks in the Arabidopsis Root*

Posters

14. Chen-Hui Chen
Duke *Large-scale surveillance of epithelial cell dynamics during tissue regeneration*
15. Mandy Womble
NC State *Pitx2c mediates asymmetrical development of the hepatobiliary system*
16. Stefanie Denning
NC State *Dual Strategy for Characterizing foxq1b*
17. Lara Linden
Duke *Germ cell-somatic cell interactions: a role for the germ cells in inducing niche and ectopic cellular enwrapment*
18. Sophia Tintori
UNC *Generating a transcriptional lineage of C. elegans development to identify regulators of morphogenesis*
19. John Runge
UNC *Epigenetic Regulation by ATP-Dependent Chromatin Remodeling Enzymes: Snf-ing Out Remodeler Crosstalk*
20. Kendall Lough
UNC *The Role of Mllt4/Afadin in Establishing Polarity in Mammalian Epidermal Progenitors*
21. Matthew Foglia
Duke *Clonal expansion and multi-chamber incorporation of atrial-specified cardiomyocytes in the developing zebrafish heart*
22. Elizabeth Cook
NC State *Leflunomide, an Anti-Rheumatic Drug, Interferes with the Dopamine Synthesis Pathway of Developing Zebrafish*
23. Debashish Menon
UNC *Germ Cell Epigenetics: Functions of Chromatin Remodeling in Spermatogenesis*
24. Daniel Serber
UNC *INO80 Chromatin Remodeling Activity is Required for Meiotic Progression*
25. Lydia Smith
UNC *Centromeric epigenetic regulation post terminal, non-proliferative, differentiation*

Posters

26. Tracy Clement
NIEHS
Act17b is Associated with the Golgi Derived Developing Acrosome and Required for Acrosome Attachment, Spermatid Morphogenesis, and Fertility
27. Adam Gracz
UNC
In Vitro Interrogation of the Intestinal Stem Cell Niche with Microarray Arrays
28. Abubakr Ziaullah
UNC
The Tbx20-Cas2 Interaction is Required for Normal Cardiac Function
29. Reema Davis
UNC
Adrenomedullin Signaling in Lymphatics
30. Stephen Klusza
UNC
Engineering a Drosophila histone mutation reveals distinct roles for PR-Set7 and H4K20 methylation
31. Casey Schmidt
UNC
Investigation of tRNA intronic circular (tric)RNA biogenesis
32. Joseph Pearson
UNC
Chromatin accessibility in Drosophila CNS midline identifies spatially and temporally-specific enhancers
33. Junsu Kang
Duke
Modulation of tissue repair by regeneration enhancer elements
34. Jaime Brozowski
UNC
Regulation of hematopoietic and mesenchymal stem cell receptor signaling via G protein-coupled receptor kinase 3 (GRK3) impacts stem cell functions and transplantation
35. Joy Meserve
UNC
The Drosophila retina: A model for cell cycle control during development and regeneration
36. Max Boeck
UNC
Competition Chip of CBF-1 in yeast reveals transcription factor dynamics

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Notes

Many thanks

to the planning committee for all their hard work putting together this symposium.

Diana Chong

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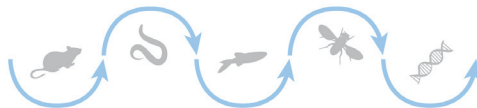
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iBGS

Integrative Program for
Biological & Genome Sciences
at UNC Chapel Hill

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Developmental & Stem Cell Biology Club

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