

Thursday, March 31: 4:00 pm–6:30 pm  
Town & Country Room

## Signal Transduction I

Moderator: Erika Bach, New York University, NY

**1** - 4:00

The *O*-fucosyltransferase Neurotic controls Notch receptor sorting and trafficking. **Takeshi Sasamura**<sup>1,2</sup>, **Hiroyuki O. Ishikawa**<sup>3</sup>, **Syunsuke Higashi**<sup>1</sup>, **Maiko Kanai**<sup>1</sup>, **Shiho Nakao**<sup>1</sup>, **Nobuo Sasaki**<sup>1</sup>, **Tomonori Ayukawa**<sup>1</sup>, **Toshiro Aigaki**<sup>4</sup>, **Katsuhisa Noda**<sup>5</sup>, **Eiji Miyoshi**<sup>5</sup>, **Naoyuki Taniguchi**<sup>5</sup>, **Kenji Matsuno**<sup>1,2,3</sup>. 1) Dept Biol Sci/Tec, Tokyo Univ Sci, Chiba, Japan; 2) PREST, JST; 3) GDRC, Tokyo Univ Sci, Chiba, Japan; 4) Dept Biol Sci, Tokyo Metropolitan Univ, Tokyo, Japan; 5) Dept Biochem, Osaka Univ, Osaka, Japan.

**2** - 4:15

The Ubiquitin Ligase Drosophila Mind Bomb Promotes Notch Signaling By Regulating The Localization And Activity Of Serate And Delta. **Eric C. Lai**<sup>1</sup>, **Fabrice Roegiers**<sup>2</sup>, **Xiaoli Qin**<sup>1</sup>, **Roland LeBorgne**<sup>3</sup>, **Francois Schweisguth**<sup>3</sup>, **Yuh Nung Jan**<sup>2</sup>, **Gerald Rubin**<sup>1</sup>. 1) Dept Molec & Cell Biol, Univ California, Berkeley, Berkeley, CA; 2) Dept Phys & Biochem, Univ California, San Francisco, CA; 3) Ecole Normale Superieure, CNRS UMR 8542, 46 rue d'Ulm, Paris France.

**3** - 4:30

The novel gene *erupted* restricts tissue growth non-cell autonomously. **Ken Moberg**<sup>1</sup>, **Suzanne Schelble**<sup>2</sup>, **Sharon Burdick**<sup>1</sup>, **Iswar Hariharan**<sup>2</sup>. 1) Dept. of Cell Biology, Emory University School of Medicine, Atlanta, GA; 2) Dept. of Molecular & Cell Biology, University of California at Berkeley, Berkeley, CA.

**4** - 4:45

Identification and characterization of a phosphatase negatively regulating the JAK/STAT signal transduction pathway in Drosophila. **Patrick Müller**, **Martin Zeidler**. Molecular Developmental Biology, Max-Planck-Institute for Biophysical Chemistry, Göttingen, Germany.

5:00 - **Break**

**5** - 5:30

dTAO-1, the Drosophila homologue of MARKK, is enriched in pole cells. **Ralf Pflanz**, **Aaron Voigt**, **Herbert Jäckle**. Molekulare Entwicklungsbiologie, Max-Planck Institut für Biophysikalische Chemie, Göttingen, Germany.

**6** - 5:45

Signaling Networks in Neural Plasticity. **Subhabrata Sanyal**<sup>1</sup>, **Stephanie Roux**<sup>1</sup>, **Yoram Yerushalmi**<sup>1</sup>, **Mani Ramaswami**<sup>1,2</sup>. 1) Molec & Cell Biol, Univ Arizona, Tucson, AZ; 2) ARLDN, Univ Arizona, Tucson, AZ.

**7** - 6:00

A role for endocytosis in nutrient-mediated TOR signaling and growth regulation. **Krista M. Hennig**<sup>1</sup>, **Julien Colombani**<sup>2</sup>, **Pierre Leopold**<sup>2</sup>, **Thomas P. Neufeld**<sup>1</sup>. 1) Genetics, Cell Biol & Dev, Univ of Minnesota, Minneapolis, MN; 2) ISDBC, CNRS UMR6543, Nice, France.

**8** - 6:15

The Atkins Fly: Target of Rapamycin (TOR) Signaling Mediates a Short-term Survival Response in Drosophila. **Sean Oldham**<sup>1</sup>, **Nancy Luong**<sup>1</sup>, **Hugo Stocker**<sup>2</sup>, **Ernst Hafen**<sup>2</sup>. 1) Cancer Research Ctr, Burnham Inst, La Jolla, CA; 2) Institute of Zoology, University of Zurich, Zurich, Switzerland.

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Golden West Room

### Neural Physiology and Behavior

Moderator: David Krantz, University of California, Los Angeles

**9** - 4:00

Characterization of candidate gustatory interneurons modulating feeding behavior in *Drosophila*. **Michael J. Pankratz**, **Christoph Melcher**. Institute for Genetics, Forschungszentrum Karlsruhe, Karlsruhe, Germany.

**10** - 4:15

Functional analyses of *fru<sup>M</sup>*-expressing neurons for their role in regulating courtship activation and male arousal. **David H. Tran**, **Bruce S. Baker**. Dept Biological Sciences, Stanford University, Stanford, CA.

**11** - 4:30

dTrpA1 controls thermotaxis in *Drosophila*. **Mark Rosenzweig<sup>1</sup>**, **Karen M. Brennan<sup>1</sup>**, **Timothy D. Tayler<sup>1</sup>**, **Ardem Patapoutian<sup>2,3</sup>**, **Paul A. Garrity<sup>1</sup>**. 1) Department of Biology, MIT, Cambridge, MA; 2) Department of Cell Biology, The Scripps Research Institute, La Jolla, CA; 3) Genomics Institute of the Novartis Research Foundation, San Diego, CA.

**12** - 4:45

Identification of a Pigment Dispersing Factor Receptor: Implications for the organization of circadian clock output. **Orie T. Shafer<sup>1</sup>**, **Erik C. Johnson<sup>2</sup>**, **Weihua Li<sup>1</sup>**, **Inge Mertens<sup>3</sup>**, **Anick Vandingenen<sup>3</sup>**, **Liliane Schoofs<sup>3</sup>**, **Paul H. Taghert<sup>1</sup>**. 1) Department of Anatomy and Neurobiology, Washington University School of Medicine, St. Louis, MO; 2) Department of Biology, Wake Forest University, Winston-Salem, NC; 3) Laboratory of Developmental Physiology, K.U Leuven, Naamsestraat 59, B-3000 Leuven, Belgium.

5:00 - **Break**

**13** - 5:30

The molecular and cellular basis of odor coding in the *Drosophila* larva. **Scott A. Kreher**, **Jae Young Kwon**, **John R. Carlson**. MCDB Dept, Yale Univ, New Haven, CT.

**14** - 5:45

*Drosophila retained/dead ringer* is antagonistic to *fruitless* in production of male courtship behavior and development of the Muscles of Lawrence. **Troy R. Shirangi**, **Michael McKeown**. Dept Molec & Cellular Biol, Brown Univ, Providence, RI.

**15** - 6:00

The v-ATPase V0 subunit a1 is required for synaptic vesicle exocytosis in *Drosophila*. **P. R. Hiesinger**, **Amir Fayyazuddin**, **Sunil Mehta**, **Tanja Rosenmund**, **Karen Schulze**, **R. G. Zhai**, **Patrik Verstreken**, **Yu Cao**, **Yi Zhou**, **Jeannette Kunz**, **Hugo Bellen**. HHMI, BCM 235, Baylor Col Medicine, Houston, TX.

**16** - 6:15

A Specific Olfactory Circuit mediates an Avoidance Behavior in *Drosophila*. **Greg Suh<sup>1</sup>**, **Allan Wong<sup>2</sup>**, **Anne Hergarden<sup>1,3</sup>**, **Jing Wong<sup>2,3</sup>**, **Anne Simon<sup>1</sup>**, **Seymour Benzer<sup>1</sup>**, **Richard Axel<sup>2,3</sup>**, **David Anderson<sup>1,3</sup>**. 1) California Institute of Technology, Pasadena, CA; 2) Columbia University, College of Physicians and Surgeons, NYC, NY; 3) Howard Hughes Medical Institute.

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California Room

### Techniques and Genomics

Moderator: Amy Kiger, University of California, San Diego

**17** - 4:00

A genomics approach for the identification of ecdysone response targets in *D. melanogaster*. **Zareen Gauhar<sup>1</sup>**, **Ling Sun<sup>1,2</sup>**, **Tong-Ruei Li<sup>1</sup>**, **Sujun Hua<sup>1,3</sup>**, **Kevin White<sup>1</sup>**. 1) Dept of Genetics, Yale University, New Haven, CT; 2) Institute of Developmental Biology and Molecular Medicine, Fudan Univ., Shanghai 200433, China; 3) Dept of Bioinformatics, Yale University, New Haven, CT.

**18** - 4:15

High resolution mapping of the sites of transcription across the entire *Drosophila* genome through development. **J. Robert Manak**, **Victor Sementchenko**, **Phil Kapranov**, **Srinka Ghosh**, **Ganesh Madhavan**, **Hari Tammana**, **Ian Bell**, **Thomas R. Gingeras**. AFFY Labs-Transcriptome, Affymetrix, Santa Clara, CA.

**19** - 4:30

A computational and experimental approach to determining the number of protein-coding genes in the *D. melanogaster* genome. **Mark Yandell<sup>1</sup>**, **Adina M. Bailey<sup>2</sup>**, **Sima Misra<sup>2</sup>**, **ShengQiang Shu<sup>2</sup>**, **Colin Wiel<sup>2</sup>**, **Martha Evans-Holm<sup>2</sup>**, **Susan E. Celniker<sup>3</sup>**, **Gerald M. Rubin<sup>1,2,3</sup>**. 1) HHMI, University of California, Berkeley, CA 94720-3200; 2) Dept. of Molecular and Cell Biology, University of California, LSA, Berkeley, CA 94720-3200; 3) Dept. of Genome Sciences, LBNL, One Cyclotron Road Mailstop 64-121, Berkeley, CA 94720.

**20** - 4:45

Computational detection and nuclear localization of nascent transcript loci from 3D confocal images of *Drosophila* limb primordia cells. **Gary Tedeschi**, **Dave Kosman**, **William McGinnis**. University of California, San Diego, La Jolla, CA.

5:00 - **Break**

**21** - 5:30

Integration of Functional Genomic Data To Dissect Cellular Pathways. **Michael Boutros**. Boveri-Group Signaling and Functional Genomics, German Cancer Research Center, 69120 Heidelberg, Germany.

**22** - 5:45

Identifying miRNAs and their targets during development. **Ying Li<sup>1</sup>**, **Maocheng Yang<sup>1</sup>**, **Harlan Robins<sup>2</sup>**, **Richard W. Padgett<sup>1</sup>**. 1) Waksman Inst, Rutgers Univ, Piscataway, NJ 08854; 2) Institute for Advanced Study, Princeton, NJ 08540.

**23** - 6:00

Genome-wide analysis of mRNA localization pathways. **Eric Lécuyer<sup>1</sup>**, **Neela Parthasarathy<sup>1</sup>**, **Jianming Pei<sup>2</sup>**, **Tim Westwood<sup>2</sup>**, **Henry Krause<sup>1</sup>**. 1) C.H. Best Institute, University of Toronto, Toronto, Ontario, Canada; 2) Canadian *Drosophila* Microarray Centre, University of Toronto, Mississauga, Ontario, Canada.

**24** - 6:15

Dual expression control in mosaic analysis with repressible cell markers. **Sen-Lin Lai<sup>1</sup>**, **Tzumin Lee<sup>1, 2</sup>**. 1) Neuroscience Program, University of Illinois, Urbana, IL; 2) Department of Cell and Structural Biology, University of Illinois, Urbana, IL.

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Friday, April 1: 8:30 am–12:30 pm  
Town & Country Room

### Pattern Formation I

Moderator: Laurel A. Raftery, Massachusetts General Hospital, Charlestown

**25** - 8:30

Spatial bistability of Dpp-receptor interactions during *Drosophila* dorsal-ventral patterning. **Yu-Chiun Wang<sup>1</sup>, Edwin Ferguson<sup>1, 2</sup>**. 1) Dept. of Organismal Biology and Anatomy; 2) Dept. of Molecular Genetics and Cell Biology, University of Chicago, 920 E. 58th St. Chicago, IL 60637.

**26** - 8:45

The peak of the BMP gradient acts primarily to establish the *zen* expression domain in the *Drosophila* embryo. **Mu Xu, Nikolai Kirov, Christine Rushlow**. Dept Biol, New York Univ, New York, NY.

**27** - 9:00

Regulation of the eye specification gene *dachshund* by Dpp signaling and the transcription factor *zerknüllt* in *Drosophila*. **Justin P. Kumar, Jason Anderson**. Dept Biol, Indiana Univ, Bloomington, IN.

**28** - 9:15

Novel functions for integrins in epithelial morphogenesis. **Maithreyi Narasimha<sup>1</sup>, Nicholas H. Brown<sup>1, 2</sup>**. 1) The Gurdon Institute, Cambridge CB2 1QR, UK; 2) Department of Anatomy, University of Cambridge, Downing Street, Cambridge CB2 3DY, UK.

**29** - 9:30

Dip3, A Member of the MADF/BESS Domain Transcription Factor Family, Is a Regulator of Eye/Antennal Fate in *Drosophila*. **Hao A. Duong<sup>1</sup>, Weigo C. Wang<sup>2</sup>, Henry Y. Sun<sup>2</sup>, Albert J. Courey<sup>1</sup>**. 1) Dept Chemistry & Biochemistry, Univ California, Los Angeles, Los Angeles, CA; 2) Institute of Molecular Biology, Academia, Taipei, Taiwan, Republic of China.

**30** - 9:45

Odd-family genes are required for retinal differentiation initiation and correct eye morphogenesis. **Fernando Casares<sup>1, 2</sup>, Catarina Bras-Pereira<sup>1, 2</sup>, Jose Bessa<sup>1, 2</sup>**. 1) CABD, Univ Pablo Olavide, Sevilla, Spain; 2) IBMC, Porto, Portugal.

**31** - 10:00

Cell Adhesion mediated by Hibris and Roughest Regulates Morphogenesis in the *Drosophila* Eye. **Sujin Bao, Ross Cagan**. Molec Biol & Pharm, Washington Univ Sch Med, St Louis, MO 63110.

10:15 - **Break**

**32** - 10:45

Long range signaling by the BMP ligand Gbb is required for the BMP activity gradient in the *Drosophila* wing disc. **Erdem Bangi, Kristi Wharton**. Dept MCB, Brown Univ, Providence, RI.

**33** - 11:00

Regulation of wing proliferation by the Dpp morphogen gradient. **Dragana Rogulja**. Waksman Inst, HHMI, Rutgers Univ, Piscataway, NJ.

**34** - 11:15

Control of growth and organ size by Fat and L(2)gd. **Manish Jaiswal, Hina Patel, Pradip Sinha**. Biological Sciences and Bioengineering, Indian Institute of Technology, Kanpur, India.

**35** - 11:30

The role of the prothoracic gland in determining critical weight and adult size in *D. melanogaster*. **Christen K. Mirth, Lynn M. Riddiford, James W. Truman**. Department of Biology, University of Washington, Seattle, WA.

**36** - 11:45

Planar polarity proteins act with dynamin to facilitate dynamic remodeling of junctional contacts in the *Drosophila* wing epithelium. **Anne-Kathrin Classen, Kurt Anderson, Suzanne Eaton**. Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, Germany.

**37** - 12:00

Polarized transport of Frizzled::GFP and ultrastructural analysis of microtubule organization in planar polarization. **Yuko Shimada<sup>1</sup>, Shigenobu Yonemura<sup>2</sup>, Tadao Usui<sup>1</sup>, David I. Strutt<sup>3</sup>, Tadashi Uemura<sup>1,4</sup>**. 1) Graduate school of Biostudies, Kyoto Univ, Japan; 2) CDB, RIKEN, Japan; 3) Biomedical Science, Univ. of Sheffield, United Kingdom; 4) CREST, JST, Japan.

**38** - 12:15

Yurt is a Crb binding protein important for epithelial polarization and morphogenesis in *Drosophila* embryos. **Patrick Laprise, Slobodan Beronja, Milena Pellikka, Ulrich Tepass**. Dept Zoology, Univ Toronto, Toronto, ON, Canada.

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Golden West Room

### Cytoskeleton and Cellular Biology

Moderator: Helmut J. Kramer, University of Texas  
Southwestern Medical Center, Dallas

**39** - 8:30

Spatial control of actin organization by a new synaptotagmin-like protein underlies epithelial junction stability. **Fanny Pilot, Jean-Marc Philippe, Céline Lemmers, Thomas Lecuit.** IBDM, Marseille, France.

**40** - 8:45

The golgin Lava Lamp mediates dynein/dynactin-based Golgi movements during *Drosophila* cellularization. **Ophelia Papoulas<sup>1</sup>, Thomas S. Hays<sup>2</sup>, John C. Sisson<sup>1</sup>.** 1) The Section of MCD Biology and The Institute for Cellular and Molecular Biology, The University of Texas, Austin, TX; 2) The Department of Genetics, Cell Biology, and Development, The University of Minnesota, MN.

**41** - 9:00

The *Drosophila* DOCK4 homolog *sponge* mediates microfilament dynamics in the cortex of syncytial-stage embryos. **Eyal D. Schejter<sup>1</sup>, Yehudit Cohen<sup>1</sup>, Kalman Somogyi<sup>2</sup>, Lynn Podemski<sup>3</sup>, Scott Hanna<sup>3</sup>, Irit Abramson<sup>1</sup>, John Locke<sup>3</sup>, Pernille Rørth<sup>2</sup>.** 1) Dept. of Molecular Genetics, Weizmann Institute of Science, Rehovot, Israel; 2) EMBL, Developmental Biology Programme, Heidelberg, Germany; 3) Dept. of Biological Sciences, University of Alberta, Edmonton, Alberta, Canada.

**42** - 9:15

Repositioning of the Centrosome-Nucleus complex in the *Drosophila* oocyte directs the formation of two orthogonal microtubule arrays controlling polarized transport. **Jens Januschke<sup>1</sup>, Louis Gervais<sup>1</sup>, Laurent Gillet<sup>1</sup>, Guy Keryer<sup>2</sup>, Michel Bornens<sup>2</sup>, Antoine Guichet<sup>1</sup>.** 1) Biologie du Développement, Institut Jacques Monod, Paris, France; 2) Institut Curie, Paris, France.

**43** - 9:30

*Drosophila* Rho1 regulates microtubules and microfilaments through the Formin-2 homologue Cappuccino. **James E. Johndrow, Lani C. Keller, Craig R. Magie, Delia M. Pinto-Santini, Susan M. Parkhurst.** Div Basic Sci, Fred Hutchinson Cancer Res Ctr, Seattle, WA.

**44** - 9:45

Talin is required to maintain tracheal terminal branches and lumen organization. **Boaz P. Levi, Amin S. Ghabrial, Mark A. Krasnow.** Dept Biochemistry, Stanford Univ, Stanford, CA.

**45** - 10:00

Mutations in the *Drosophila* GTPase dMiro disrupt microtubules, mitochondrial transport, synaptic structure and function. **G. T. Macleod<sup>1</sup>, X. Guo<sup>1</sup>, A. J. Wellington<sup>1</sup>, H. Fangle<sup>2</sup>, M. Schoenfield<sup>1</sup>, L. Marin<sup>3</sup>, M. P. Charlton<sup>3</sup>, H. L. Atwood<sup>3</sup>, K. E. Zinsmaier<sup>1,2</sup>.** 1) ARL, Division of Neurobiology, University of Arizona, Tucson, AZ; 2) Department of Molecular & Cellular Biology, University of Arizona, Tucson, AZ; 3) Department of Physiology, University of Toronto, Toronto, Ontario, Canada.

**46** - 10:45

Trailer Hitch is part of an RNA-protein complex that is required for Gurken secretion. **James E. Wilhelm, Suzanne Sayles.** Dept Embryology, Carnegie Inst Washington, Baltimore, MD.

**47** - 11:00

Sec6 is an essential component of the *Drosophila* exocyst that is involved in epithelial differentiation-stage specific basolateral and apical exocytosis. **Slobodan Beronja, Patrick Laprise, Milena Pellika, Ulrich Tepass.** Department of Zoology, University of Toronto, Toronto, ON, Canada.

**48** - 11:15

Regulation of cell adhesion and organ size by the Fat atypical cadherin of *Drosophila*. **Pradip Sinha<sup>1</sup>, M. Jaiswal<sup>1</sup>, N. Agrawal<sup>2</sup>.** 1) Biosci & Bioengineering, Indian Inst Technology, Kanpur, India; 2) Department of Developmental and Cell Biology, University of California, Irvine, USA.

**49** - 11:30

Cadherin Cad99c is a Regulator of Microvilli Morphogenesis. **Dorothea A. Godt, Cecilia D'Alterio, Michelle Li, Dao Tran, Michael Hwang, Maggie Au Yeung, Mareta Chase, Praveer Sharma, Vikram Mulligan, Mary Kubesh, Nadja Ghani.** Dept Zoology, Univ Toronto, Toronto, ON, Canada.

**50** - 11:45

A screen for genes affecting endocytic trafficking in *D. melanogaster*. **Adam S. Haberman, Helmut Krämer.** Cntr Basic Neurosci, UT Southwestern Med Cntr, Dallas, TX.

**51** - 12:00

Avalanche, a *Drosophila* Syntaxin, Regulates Epithelial Polarity and Proliferation. **Han Lu, David Bilder.** Dept Molec & Cell Biol, Univ California, Berkeley, Berkeley, CA.

**52** - 12:15

Dissecting the cellular machinery that regulates Smoothed protein trafficking. **Alan J. Zhu, Matthew P. Scott.** Developmental Biology, Stanford Univ Sch Med, Stanford, CA.

10:15 - Break

Program number is in bold above the title. The first author is the presenter. Abstracts begin on page 82.

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California Room

**Evolution and Quantitative Genetics**

Moderator: Anthony D. Long, University of California, Irvine

**53** - 8:30

Genetic investigation of the rapid evolution of ovariole number. **Virginie Orgogozo, David Stern.** Ecology & Evolutionary Biology, Princeton University, Princeton, NJ.

**54** - 8:45

Evolution of cis-regulatory modules in the segmentation gene network. **Saurabh Sinha, Michael Pearce, John Fak, Eric Siggia, Ulrike Gaul.** Rockefeller Univ, New York, NY.

**55** - 9:00

Evolutionary conservation of regulatory networks. **Diego E. Rincon-Limas<sup>1</sup>, Pedro Fernandez-Funez<sup>1</sup>, Cheng-Hsin Lu<sup>2</sup>, Maria L. Nino-Rosales<sup>2</sup>, Juan Botas<sup>2</sup>.** 1) Department of Neurology, UTMB, Galveston, TX; 2) Department of Molecular Genetics, Baylor College of Medicine, Houston, TX.

**56** - 9:15

Chance caught on the wing: cis-regulatory evolution and the origin of a novel trait. **Benjamin Prud'homme<sup>1</sup>, Nicolas Gompel<sup>1</sup>, Patricia Wittkopp<sup>2</sup>, Victoria Kassner<sup>1</sup>, Sean Carroll<sup>1</sup>.** 1) HHMI - Laboratory of Molecular Biology, University of Wisconsin, Madison, WI 53706; 2) Department of Molecular Biology and Genetics, Cornell University, Ithaca, NY 14853.

**57** - 9:30

Four *zerknullt* genes and a serosa in the Cyclorrhaphan fly *Episyrphus*. **Abdul M. Rafiqi<sup>1</sup>, Steffen J. Lemke<sup>1</sup>, Michael Stauber<sup>2</sup>, Urs Schmidt-Ott<sup>1</sup>.** 1) Department of Organismal Biology and Anatomy, The University of Chicago, Chicago, IL; 2) Developmental Genetics Laboratory, Cancer Research UK, London, UK.

**58** - 9:45

Co-expression domains: units of evolution in the *Drosophila* transcriptome. **Jason G. Mezey<sup>1</sup>, Corbin D. Jones<sup>2</sup>, Sergey V. Nuzhdin<sup>1</sup>.** 1) Center for Population Biology and Section of Evolution and Ecology, University of California at Davis, Davis, CA, 95616; 2) Department of Biology and Carolina Center for Genome Sciences, University of North Carolina at Chapel Hill, Chapel Hill, NC, 27599.

**59** - 10:00

Accelerated molecular clock, gene expression pattern and transcript abundance are determinants of *Drosophila* transcriptome evolution. **Joel Savard<sup>1</sup>, Diethard Tautz<sup>1</sup>, Martin Lercher<sup>2</sup>.** 1) Institut of Genetics, University of Cologne, Germany; 2) Department of Biology & Biochemistry, University of Bath, UK.

10:15 - **Break**

**60** - 10:45

Rapid evolution of male-biased genes and X-chromosome linkage in multiple *Drosophila* species. **David M. Sturgill, Vijayanti Gupta, Michael Parisi, Brian Oliver.** NIDDK, NIH, Bethesda, MD.

**61** - 11:00

*Aldehyde dehydrogenase* is essential for ethanol tolerance and shows a world-wide polymorphism which parallels the *Adh* polymorphism. **James D. Fry, Patricia Jones, Molly Saweikis.** Dept Biol, Univ Rochester, Rochester, NY.

**62** - 11:15

Recurrent deletion and gene presence/absence polymorphism: telomere dynamics dominate DNA evolution at the tip of 3L in *D. melanogaster* and *D. simulans*. **Andrew D. Kern, David J. Begun.** Ctr Population Biol, Univ California, Davis, Davis, CA.

**63** - 11:30

Functional genomics of cactus host adaptation in *D. mojavensis*. **Luciano M. Matzkin, Thomas D. Watts, Benjamin G. Bitler, Therese A. Markow.** Dept Ecology & Evolutionary Biology, University of Arizona, Tucson, AZ.

**64** - 11:45

Artificial selection for desiccation resistance in *D. melanogaster*: gene expression and physiological responses to selection. **Marina Telonis-Scott<sup>1,2</sup>, Kathryn Guthridge<sup>1</sup>, Rebecca Hallas<sup>1</sup>, Phil Daborn<sup>3</sup>, Ary Hoffmann<sup>1</sup>.** 1) CESAR, La Trobe University, Bundoora Victoria, Australia; 2) Department of Zoology, University of Florida, Gainesville, FL, USA; 3) CESAR, Melbourne University, Parkville Victoria, Australia.

**65** - 12:00

Membrane fluidity and biochemical flux: new insight on the evolution of ethanol and acetic acid tolerance in *Drosophila*. **Kristi L. Montooth, Kyle T. Siebenthal, Andrew G. Clark.** Dept Molec Biol & Genetics, Cornell Univ, Ithaca, NY.

**66** - 12:15

Genetic differentiation between behavioral races of *D. melanogaster*. **Joshua A. Shapiro<sup>1</sup>, Naoki Osada<sup>2</sup>, Chung-I Wu<sup>1</sup>.** 1) Dept Ecology & Evolution, Univ Chicago, Chicago, IL; 2) Division of Genetic Resources, National Institute of Infectious Diseases, Tokyo, Japan.

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### Pattern Formation II

Moderator: **Stuart J. Newfeld**, Arizona State University, Tempe

**67** - 4:30

Mosquito versus Fruit fly. Evolution of patterning networks. **Yury Goltsev, Mike Levine**. Dept MCB, Univ California, Berkeley, Berkeley, CA.

**68** - 4:45

Independent evolution of localized morphogenetic centers in the long germband wasp, *Nasonia vitripennis*. **Jeremy Lynch<sup>1</sup>, Mary Anne Pultz<sup>2</sup>, David Leaf<sup>2</sup>, Claude Desplan<sup>1</sup>**. 1) New York Univ, New York, NY; 2) Western Washington U., Bellingham, WA.

**69** - 5:00

Dynamics of the Developmental Reaction Network that Patterns the Drosophila Embryo Along the Antero-Posterior Axis in an Environment Controlled in Space and Time with Microfluidics. **Elena M. Lucchetta<sup>1</sup>, Ji Hwan Lee<sup>1</sup>, Lydia A. Fu<sup>1</sup>, Nipam H. Patel<sup>2</sup>, Rustem F. Ismagilov<sup>1</sup>**. 1) Dept Chemistry, Univ Chicago, Chicago, IL; 2) Dept of Integrative Biology and Howard Hughes Medical Institute, Univ California - Berkeley, Berkeley, CA.

**70** - 5:15

Gap genes in the short germ beetle *Tribolium*. **Alexander C. Cerny<sup>1</sup>, Gregor Bucher<sup>2</sup>, Martin Klingler<sup>1</sup>**. 1) Institute for Zoology, Friedrich-Alexander-University, Erlangen, Germany; 2) Institute for Zoology, Anthropology and Developmental Biology, Georg-August-University Göttingen.

**71** - 5:30

Spatiotemporal Precision of Segmentation Gene Expression in Drosophila Early Embryo. **Svetlana Surkova<sup>1</sup>, Maria Samsonova<sup>1</sup>, Ekaterina Myasnikova<sup>1</sup>, Carlos E. Vanario-Alonso<sup>2</sup>, John Reinitz<sup>2</sup>**. 1) State Polytechnical University, St. Petersburg, Russia; 2) State University of New York at Stony Brook, NY, USA.

**72** - 5:45

Understanding mechanisms of boundary formation in the ventral epidermis. **Mark D. Stern, Lisa Komenda, Steven K. Beckendorf**. Dept Molecular & Cell Biol, Univ California, Berkeley, Berkeley, CA.

**73** - 6:00

Functional Analysis of microRNA-1. **Nicholas S. Sokol, Victor Ambros**. Dept Genetics, Dartmouth Medical Sch, Hanover, NH.

**74** - 6:15

Transcriptional activation and repression domains of the Drosophila Ultrabithorax protein. **Ella Tour, William McGinnis**. Department of Cell & Developmental Biology, University of California, San Diego, La Jolla, CA.

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### Genome and Chromosome Structure

Moderator: **Harald Biessmann**, University of California, Irvine

**75** - 4:30

Heterochromatin genomics: Targeting signals, developmental regulation, and novel components of heterochromatin. **Bas van Steensel, Elzo de Wit, Frauke Greil**. Netherlands Cancer Institute, Amsterdam, the Netherlands.

**76** - 4:45

Melange à trois: an analysis of boundary promiscuity. **Daryl Gohl, Jason Blanton, Paul Schedl**. Department of Molecular Biology, Princeton University, Princeton, NJ.

**77** - 5:00

Drosophila ESC is phosphorylated by protein kinase CK2. **Feng Tie, Carl Stratton, Vincent Stepanik, Perter J. Harte**. Genetics, Case Western Reserve University, Cleveland, OH.

**78** - 5:15

Drosophila PIAS is a SUMO E3-Ligase that affects chromosome and nuclear organization. **Patrick Heun<sup>1</sup>, Micheal Blower<sup>2</sup>, Samara Weiss<sup>1</sup>, Gary Karpen<sup>1</sup>**. 1) Life Sciences, Lawrence Berkeley National Lab, Berkeley, CA; 2) Department of Molecular and Cell Biology, UC Berkeley, CA.

**79** - 5:30

Dual roles of Drosophila ATM and Mre11 at telomeres and at DNA damage sites. **Xiaolin Bi, Min Gong, Su-Chin Wei, Deepa Srikanta, Yikang S. Rong**. NCI/NIH, Bethesda, MD.

**80** - 5:45

Centromeric chromatin assembly in vitro. **Takehito Furuyama, Yamini Dalal, Steve Henikoff**. Division of Basic Sciences, Fred Hutchinson Cancer Research Center, Seattle, WA.

**81** - 6:00

Epigenetic maternal inheritance of transposable element (TE) derived siRNA correlates with the maintenance of TE repression in a hybrid dysgenic cross in *D. virilis*. **Justin P. Blumensiel, Daniel Hartl**. Organismic and Evol. Biology, Harvard University, Cambridge, MA.

**82** - 6:15

A short pulse of transcription factor protects transgene from homology dependent silencing in Drosophila. **Utpal Bhadra<sup>1</sup>, Joydeep Kundu<sup>2</sup>, Maheshwar-G Reddy<sup>1</sup>, Devanga Pramod<sup>1</sup>, Manika Pal-Bhadra<sup>2</sup>**. 1) Dept Functional Genomics and Gene Silencing, Centre for Cellular & Molecular Biology, Hyderabad-50007, India; 2) Department of Pharmacology, Indian Institute Of Chemical Technology, Uppal Road, Hyderabad-500007, India.

Program number is in bold above the title. The first author is the presenter. Abstracts begin on page 82.

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Friday, April 1: 4:30 pm–6:30 pm  
California Room

### **Meiosis, Mitosis, and Cell Division**

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Moderator: Jonathan Scholey, University of California,  
Davis

**83** - 4:30

Loss of Borealin function causes cell autonomous mitotic defects and has non-autonomous effects on tissue development. **Kirsten K. Hanson, Mariann Bienz.** Cell Biology Division, MRC Lab. of Molecular Biology, Cambridge, U.K.

**84** - 4:45

Drosophila NOD protein promotes ATP-dependent microtubule polymerization in vitro. **Wei Cui<sup>1</sup>, Lisa Sproul<sup>2</sup>, Susan Gilbert<sup>2</sup>, Susan Gustafson<sup>1</sup>, R. Scott Hawley<sup>1</sup>.** 1) Stowers Inst, Kansas City, MO; 2) University of Pittsburgh, Pittsburgh, PA.

**85** - 5:00

Specialized roles for Cks proteins in female meiosis, anaphase progression in syncytial embryos and in preventing polyploidy in mitotic cells. **Andrew Swan, Trudi Schüpbach.** Dept Molecular Biol, Princeton Univ, Princeton, NJ.

**86** - 5:15

The Drosophila Grp/Chk1 DNA damage checkpoint controls entry into anaphase. **Anne Royou, Hector Macias, William Sullivan.** Dept MCD Biol, Univ California, Santa Cruz, Santa Cruz, CA.

**87** - 5:30

Developmental control of the S phase program: Late replication and the mid-blastula transition. **Patrick H. O'Farrell, Antony W. Shermoen.** Dept Biochemistry, Univ California, San Francisco, CA.

**88** - 5:45

Coordination of Cell Cycle and Cytoskeletal events in the early Drosophila embryo. **Justin M. Crest, Gerold Schubiger.** Dept Biol, Univ Washington, Seattle, WA.

**89** - 6:00

Overexpression of the Drosophila Centromere-Specific Histone CID Causes Ectopic Kinetochores. **Sylvia Erhardt<sup>1,2</sup>, Patrick Heun<sup>1</sup>, Mike Blower<sup>2</sup>, Andrew Skora<sup>3</sup>, Gary Karpen<sup>1,2</sup>.** 1) Genome Biology, Lawrence Berkeley National Lab, Berkeley, CA 94720; 2) Department of Molecular and Cell Biology, University of California at Berkeley, Berkeley, CA 94720; 3) Department of Embryology, Carnegie Institute, Baltimore, MD 21210.

**90** - 6:15

Incorporation of constitutive centromere proteins during anaphase. **Stefan K. Heidmann, Melina Schuh, Oliver Leisemann, Sebastian Heeger, Christian F. Lehner.** Dept Genetics, Univ Bayreuth, Bayreuth, Germany.

Saturday, April 2: 8:30 am–12:30 pm  
Town & Country Room

### Neurogenetics and Neural Development

Moderator: Kai Zinn, California Institute of Technology, Pasadena

**91** - 8:30

Sema1a can function as an attractive guidance receptor during *Drosophila* visual system development. **Patrick W. Caferty, Li Yu, Yong Rao.** Dept Neurology & Neurosurgery, McGill Univ/MGH Research Inst, Montreal, PQ, Canada.

**92** - 8:45

Analysis of *LAR* and *Liprin-α* Function in R7 Photoreceptor Axon Targeting. **Kerstin D. Hofmeyer<sup>1</sup>, Corinne Maurel-Zaffran<sup>2</sup>, Jessica Treisman<sup>1</sup>.** 1) Skirball Institute and Department of Cell Biology, NYU School of Medicine, 540 First Avenue, New York, NY 10016; 2) IBDM, Case 907 Parc Scientifique de Luminy, Marseille, 13009 France.

**93** - 9:00

The glypican Dally-like is required for axon guidance and visual system assembly in *Drosophila*. **Brian D. Dimitroff<sup>1</sup>, Joel M. Rawson<sup>1</sup>, Karl G. Johnson<sup>2</sup>, Jaime M. Rawson<sup>1</sup>, Xuecai Ge<sup>2</sup>, David Van Vactor<sup>2</sup>, Scott B. Selleck<sup>1</sup>.** 1) Dept. of Genetics, Cell Biology & Development, University of Minnesota, Minneapolis, MN; 2) Dept. of Cellular Biology and Program in Neuroscience, Harvard Medical School, Boston, MA.

**94** - 9:15

Syndecan is a candidate ligand for the *Drosophila* receptor protein tyrosine phosphatase Dlar. **A. Nicole Fox, Kai G. Zinn.** Division of Biology, California Institute of Technology, Pasadena, CA.

**95** - 9:30

An urbilaterian origin of the tripartite brain: developmental genetic insights from *Drosophila*. **Frank Hirth<sup>1</sup>, Beate Hartmann<sup>1</sup>, Tanja Gryzik<sup>2</sup>, Lars Kammermeier<sup>1</sup>, Erich Frei<sup>3</sup>, Uwe Walldorf<sup>4</sup>, Markus Noll<sup>3</sup>, H-Arno J. Müller<sup>2</sup>, Heinrich Reichert<sup>1</sup>.** 1) Institute of Zoology, Biocenter, University of Basel, Switzerland; 2) Institute of Genetics, Heinrich-Heine-University Dusseldorf, Germany; 3) Institute for Molecular Biology, University of Zürich, Switzerland; 4) Department of Anatomy and Cell Biology, University of Saarland, Germany.

**96** - 9:45

Extra inhibits the self-renewing asymmetric division potential of ganglion mother cells as well as prevents the mis-routing of axon tracts in the embryonic CNS of *Drosophila*. **Ivana Gazi-ova, Krishna Moorthi Bhat.** Department of Cell Biology, Emory University School of Medicine, Atlanta, GA.

**97** - 10:00

*senseless* and *daughterless* cooperate to endow neural identity to sensory precursors. **An-Chi Tien, Hamed Jafar-Nejad, Hugo J. Bellen.** Program in Developmental Biology, HHMI, Baylor College of Medicine, Houston, TX.

10:15 - **Break**

**98** - 10:45

*Dimmed* is a master regulator of the neuroendocrine phenotype and a transcriptional regulator. **Dongkook Park<sup>1</sup>, Douglas Allan<sup>2</sup>, Stefan Thor<sup>2</sup>, Satchinananda Panda<sup>3</sup>, Paul Taghert<sup>1</sup>.** 1) Dept Anatomy & Neurobiology, Washington Univ Medical Sch, St Louis, MO; 2) Harvard University Medical School, 220 Longwood Ave, Boston, MA, 02115; 3) Regulatory Biology Laboratory, The Salk Institute for Biological Studies, Post Office Box 85800, San Diego, California 92186-5800.

**99** - 11:00

Fred regulates neurogenesis in the developing eye. **Susan A. Spencer<sup>1</sup>, Mike Gitcho<sup>1</sup>, Jill Fink<sup>2</sup>, Grant Simmons<sup>1</sup>, Jeremy Hunn<sup>1</sup>, Andrea Santeford<sup>1</sup>.** 1) Department of Biology, Saint Louis University, St. Louis, MO; 2) Molecular Biology and Pharmacology, Washington University, St. Louis, MO.

**100** - 11:15

N-cadherin mediates an attractive interaction between photoreceptor axons and their targets. **Saurabh Prakash, Thomas Clandinin.** Neurobiology, Stanford University, Stanford, CA.

**101** - 11:30

*DE-cadherin/shg* in *Drosophila* larval brain development. **Siau-Min Fung<sup>1</sup>, Fay Wang<sup>2</sup>, Volker Hartenstein<sup>1</sup>.** 1) Dept MCDB, Univ California at Los Angeles, Los Angeles, CA; 2) Gladstone Institute of Neurological Disease, Univ California San Francisco, San Francisco, CA.

**102** - 11:45

Fragile X protein functions with Lgl and the PAR complex in flies and mice. **Daniela C. Zarnescu<sup>1</sup>, Peng Jin<sup>2</sup>, Joerg Betschinger<sup>3</sup>, Mika Nakamoto<sup>2</sup>, Yan Wang<sup>4</sup>, Thomas C. Dockendorff<sup>5</sup>, Yue Feng<sup>6</sup>, Thomas A. Jongens<sup>7</sup>, John C. Sisson<sup>4</sup>, Juergen A. Knoblich<sup>3</sup>, Stephen T. Warren<sup>2</sup>, Kevin Moses<sup>1</sup>.** 1) Dept of Cell Biology, Emory Univ Sch of Med, Atlanta, GA; 2) Dept of Human Genetics, Emory Univ Sch of Med, Atlanta, GA; 3) Institute of Mol Pathology, Dr. Bohrgasse 7, Vienna, Austria; 4) The Section of Mol Cell and Dev Biology, and The Inst for Cell and Mol Biology, The Univ of Texas at Austin, Austin, TX; 5) Dept of Zoology, Miami University, Oxford, OH; 6) Dept of Genetics, Univ of Pennsylvania Sch of Med, Philadelphia, PA; 7) Dept of Pharmacology, Emory Univ Sch of Med, Atlanta, GA.

**103** - 12:00

A role for the Fray kinase in nerve glia to regulate ion homeostasis. **William M. Leiserson, Haig Keshishian.** MCD Biology Dept., Yale University, New Haven, CT.

**104** - 12:15

Neuron-glia interaction for programmed axon pruning during metamorphosis of *Drosophila*. **Takeshi Awasaki<sup>1, 2</sup>, Ryoko Tatsumi<sup>1, 3</sup>, Kuniaki Takahashi<sup>4</sup>, Ryu Ueda<sup>4</sup>, Kei Ito<sup>1, 3</sup>.** 1) Center for Bioinformatics, IMCB, University of Tokyo, Tokyo, Japan; 2) PRESTO, JST; 3) BIRD, JST; 4) NIG, Mishima, Japan.

Program number is in bold above the title. The first author is the presenter. Abstracts begin on page 82.

Saturday, April 2: 8:30 am–12:30 pm  
Golden West Room

### Regulation of Gene Expression

Moderator: Albert J. Coury, University of California, Los Angeles

**105** - 8:30

Bicoid is sufficient to determine precisely the position of target gene expression in the *Drosophila* embryo. **Olivier Crauk, Nathalie Dostatni**. Institut Curie, CNRS, Paris, France.

**106** - 8:45

Establishment of gap gene expression borders through combinatorial interactions between Hunchback and Kruppel in early embryo development. **Danyang Yu, Stephen Small**. Biology, New York University, New York, NY.

**107** - 9:00

Biochemical and genetic analysis of Moses, a novel DHR78-specific cofactor. **Keith D. Baker<sup>1,2</sup>, Robert B. Beckstead<sup>1</sup>, David J. Mangelsdorf<sup>2</sup>, Carl S. Thummel<sup>1</sup>**. 1) HHMI, University of Utah, Salt Lake City, UT; 2) HHMI, UT Southwestern Medical Center, Dallas, TX.

**108** - 9:15

Characterization of ISWI-type chromatin remodeling factors in the Wingless signaling pathway. **Yan Liu, Tim Blauwkamp, Ming Fang, Jiong Li, Kenneth Cadigan**. Dept Molecular, Cellular and Developmental Biology, Univ. of Michigan, Ann Arbor, MI.

**109** - 9:30

Polycomb mediates transcriptional repression by dMyc. **Julie M. Goodliffe<sup>1</sup>, Michael D. Cole<sup>2</sup>, Eric Wieschaus<sup>1</sup>**. 1) Department of Molecular Biology, Princeton University, Princeton, NJ; 2) Departments of Pharmacology and of Genetics, Dartmouth Medical School, Lebanon, NH.

**110** - 9:45

Transcriptional networks regulating heart and muscle development. **Brian W. Busser<sup>1,2</sup>, Anthony A. Philippakis<sup>1</sup>, Steve Gisselbrecht<sup>1,2</sup>, Beatriz Estrada<sup>1,2</sup>, Sebastien Michaud<sup>1,2</sup>, Martha L. Bulyk<sup>1</sup>, Alan M. Michelson<sup>1,2</sup>**. 1) Division of Genetics, Brigham & Women's Hospital, Boston, MA; 2) Howard Hughes Medical Institute.

**111** - 10:00

Transvection: Heterologous Promoters Participate in Transactivation at yellow. **Anne M. Lee, C.-Ting Wu**. Dept Genetics, Harvard Med Sch, Boston, MA.

10:15 - **Break**

**112** - 10:45

The RISC component Argonaute2 is essential for RNA interference and is required for microtubule-based transport and membrane formation. **Wibke J. Meyer<sup>1</sup>, Silke Schreiber<sup>1</sup>, Yi Guo<sup>2</sup>, Thorsten E. Volkman<sup>1</sup>, Michael A. Welte<sup>2</sup>, H.-Arno J. Müller<sup>1</sup>**. 1) Institute of Genetics, Heinrich-Heine-University, Düsseldorf, Germany; 2) Rosenstiel Center, Brandeis University, Waltham, MA, USA.

**113** - 11:00

RNA editing mutant *Drosophila*; Rescue by the human *ADAR* genes. **Liam P. Keegan<sup>1</sup>, Anne Leroy<sup>1</sup>, Gillian Ring<sup>1</sup>, Leanne McGurk<sup>1</sup>, Jim Brindle<sup>1</sup>, Rob Reenan<sup>2</sup>, Mary O'Connell<sup>1</sup>**. 1) Dept Chromosome Biol, MRC Human Genetics Unit, Edinburgh, United Kingdom; 2) University of Connecticut Health Center, 263 Farmington Avenue, Farmington, CT 06030, U.S.A.

**114** - 11:15

Evidence that the MSL complex of *Drosophila* functions by increasing the rate of transcript elongation. **Antonio Pannuti, Gypsy Hernandez, Ajay Pillarsetti, John Lucchesi**. Dept Biol, Emory Univ, Atlanta, GA.

**115** - 11:30

Identification of alternative splicing regulators by RNA interference in *Drosophila*. **Jung W. Park<sup>1</sup>, Katherine Parisky<sup>1</sup>, Alicia M. Celotto<sup>1,2</sup>, Robert A. Reenan<sup>1</sup>, Brenton R. Graveley<sup>1</sup>**. 1) Dept Genetics & Dev Biol, Univ Connecticut Health Ctr, Farmington, CT; 2) Department of Pharmacology, University of Pittsburgh, Pittsburgh, PA 15261.

**116** - 11:45

The role of microRNAs in *Drosophila* embryonic development. **Ulrike Gaul, John Fak, Po-Yu Chen, Abdullah Yalcin, Michael Pearce, Ulrich Unnerstall, Thomas Tuschl, Dan Leaman**. Rockefeller University, New York, NY.

**117** - 12:00

The Berkeley *Drosophila* Transcription Network Project: An Interdisciplinary, System-wide Analysis of the Pregastrula Regulatory Network. **Michael Eisen<sup>1</sup>, I Berkeley Drosophila Transcription Network Project<sup>1,2,3</sup>**. 1) University of California, Berkeley; 2) Lawrence Berkeley National Laboratory; 3) University of California, Davis.

**118** - 12:15

Use of Computational and Transgenic Approaches to Decipher the *cis*-regulatory Regions in the *D. melanogaster* genome. **S. E. Celniker<sup>1</sup>, B. Pfeiffer<sup>1</sup>, B. Berman<sup>1</sup>, B. Fisher<sup>1</sup>, P. Tomancak<sup>2</sup>, J. Carlson<sup>1</sup>, T. Laverly<sup>2</sup>, G. M. Rubin<sup>2</sup>, M. B. Eisen<sup>1</sup>**. 1) Berkeley *Drosophila* Transcription Network Project, Life Sciences and Genomics Divisions, Lawrence Berkeley National Laboratory, Berkeley, CA 94720; 2) Howard Hughes Medical Institute, University of California, Berkeley, CA 94720.

Saturday, April 2: 8:30 am–10:15 am  
California Room

### Immune System and Cell Death

Moderator: Carrie B. Brachmann, University of California, Irvine

**119** - 8:30

*Drosophila Rel* mutants reveal a pivotal role for Rel signaling in hemocyte proliferation, survival and function. **Nina Matova**, **Kathryn V. Anderson**. Sloan-Kettering Inst, New York, NY.

**120** - 8:45

A novel receptor for phagocytosis of bacterial pathogens. **Christine Kocks**<sup>1</sup>, **Alan Pearson**<sup>1</sup>, **Juhyun Cho**<sup>1</sup>, **Nadine Nehme**<sup>2</sup>, **Johanna Ulvila**<sup>3</sup>, **Marie Meister**<sup>2</sup>, **Marie Lagueux**<sup>2</sup>, **Charles Strom**<sup>1</sup>, **Stephanie Conto**<sup>1</sup>, **Laurent Troxler**<sup>2</sup>, **Charles Hetru**<sup>2</sup>, **Lynda Stuart**<sup>1</sup>, **Jules A. Hoffmann**<sup>2</sup>, **Jean-Marc Reichhart**<sup>2</sup>, **Dominique Ferrandon**<sup>2</sup>, **Mika Rämetsä**<sup>1,3</sup>, **R. Alan Ezekowitz**<sup>1</sup>. 1) Massachusetts General Hospital, Harvard Medical School, Boston, MA; 2) Institute de Biologie Moléculaire et Cellulaire (IBMC), CNRS, Strasbourg, France; 3) Institute of Medical Technology, Tampere, Finland.

**121** - 9:00

A novel genetic screen for identification of cell death genes in *Drosophila*: Molecular genetic characterization of *dark* mutants. **Mayank Srivastava**, **Heather Scherr**, **Melinda Lackey**, **Dongbin Xu**, **Jun Lu**, **Li Wang**, **Andreas Bergmann**. Department of Biochemistry and Molecular Biology, University of Texas, MD Anderson Cancer Center, 1515, Holcombe Boulevard, Houston, TX.

**122** - 9:15

Requirement of *dronc*, a *Drosophila* Caspase, for Stress-Induced Apoptosis. **Fatih Akdemir**<sup>1</sup>, **SuKit Chew**<sup>1</sup>, **Po Chen**<sup>1</sup>, **Wan-Jin Lu**<sup>1</sup>, **Antony Rodriguez**<sup>2</sup>, **John Abrams**<sup>1</sup>. 1) Department of Cell Biology, UT Southwestern Medical Center, Dallas, TX, USA 75390; 2) Wellcome Trust Sanger Institute Genome Campus Cambridge CB10 1SA UK.

**123** - 9:30

The *Drosophila* casein kinase *Iε/δ* Dco promotes cell survival via upregulation of DIAP1 expression. **Ju Guan**<sup>1</sup>, **Ana Rogulja**<sup>2</sup>, **Ken Cadigan**<sup>3</sup>. 1) Department of Biochemistry, Cellular and Molecular Biology, University of Tennessee, Knoxville, TN 37996-0830, USA; 2) Institute for Genetics, University of Mainz, Mainz, Germany D-55099; 3) Department of Molecular, Cellular and Developmental Biology, University of Michigan, Natural Science Building, Ann Arbor, MI 48109-1048, USA.

**124** - 9:45

The role of *Drosophila* phosphatidylserine receptor in apoptotic cell engulfment and development. **Ronald J. Krieser**<sup>1</sup>, **Reena Petal**<sup>1</sup>, **Finola Moore**<sup>1</sup>, **Albert Huang**<sup>1</sup>, **Carrie Brachmann**<sup>2</sup>, **Kristin White**<sup>1</sup>. 1) CBRC, Massachusetts General Hospital, Charlestown, MA; 2) Developmental and Cell Biology, University of California, Irvine.

**125** - 10:00

Chromatin access of ecdysone-regulated transcription and remodelling factors regulated by cytoskeletal proteins during *Drosophila* salivary gland cell death. **Robert Farkas**<sup>1,2</sup>, **Silvia Kucharova-Mahmood**<sup>1</sup>, **Lucia Medvedova**<sup>1</sup>, **Bernard Mechler**<sup>2</sup>. 1) Institute of Experimental Endocrinology, Slovak Academy Sciences, Vlarska 3, 83306 Bratislava, Slovakia; 2) Dept. of Developmental Genetics, Deutsches Krebsforschungszentrum, INF 280, 69120 Heidelberg, Germany.

Saturday, April 2: 10:45 am–12:30 pm  
California Room

### Organogenesis

Moderator: Manfred Frasch, Mount Sinai School of Medicine, New York, NY

**126** - 10:45

The novel *Drosophila* gene *zwirbel* (*zwi*) and its role during gastrulation. **M. Feix, M. Hoch.** Dept of Molecular Developmental Biology, University of Bonn, Germany.

**127** - 11:00

Motor neurons regulate myoblast proliferation and patterning during adult myogenesis. **Joyce J. Fernandes<sup>1</sup>, Haig Keshishian<sup>2</sup>.** 1) Zoology Dept, Miami Univ, Oxford, OH; 2) Dept of MCDB, Yale University, New Haven, CT.

**128** - 11:15

The role of *calcineurin B2* in the development of the indirect flight muscles in *Drosophila*. **Kathleen M. Gajewski, Jianbo Wang, Robert A. Schulz.** Dept Biochemistry & Molec Biol, MD Anderson Cancer Ctr, Houston, TX.

**129** - 11:30

Identification of Stripe downstream genes reveals novel players mediating *Drosophila* muscle-tendon interaction. **Arul Subramanian, Hila Toledano-Katchalski, Bess Wayburn, Talila Volk.** Dept Molecular Genetics, Weizmann Inst Science, Rehovot, Israel.

**130** - 11:45

The FERM protein, fermitin, is part of the 'core' integrin adhesion complex that is essential for integrin function during morphogenesis. **Danelle N. Devenport, Nicholas H. Brown.** The Wellcome Trust/Cancer Research UK Gurdon Institute of Cancer and Developmental Biology, Cambridge, United Kingdom.

**131** - 12:00

Control of *Drosophila* Tracheal Cell Migration and Fusion by the dysfusion Gene. **Lan Jiang, Stephen Crews.** Department of Biochemistry and Biophysics, The University of North Carolina at Chapel Hill, Chapel Hill, NC 27599-3280.

**132** - 12:15

Control of tracheal terminal cell size and branching. **Amin S. Ghabrial<sup>1,2</sup>, Boaz P. Levi<sup>1</sup>, Mark A. Krasnow<sup>1,2</sup>.** 1) Dept Biochem, Stanford Univ, Stanford, CA; 2) Howard Hughes Medical Institute.

Saturday, April 2: 4:00 pm–6:30 pm  
Town & Country Room

### Signal Transduction II

Moderator: Guillermo Marques, University of Alabama at Birmingham

**133** - 4:00

RNA Interference Screening of the Hh Signaling Pathway identifies many new components required for Hh Signaling and reveals unexpected roles for large protein complexes in Hh signal transduction. **Kent E. Nybakken<sup>1</sup>, Vokes Steven<sup>2</sup>, Ting-Yi Li<sup>2</sup>, McMahon Andrew<sup>2</sup>, Perrimon Norbert<sup>1</sup>.** 1) Dept Genetics, Harvard Medical School, Boston, MA; 2) Dept Molecular and Cellular Biology, Harvard Univ., Cambridge, MA.

**134** - 4:15

Identification of Novel Hh Sensors Using a High-Throughput RNAi Screen in *Drosophila* Cultured Cells. **Shenqin Yao<sup>1</sup>, Brian Geisbrecht<sup>2</sup>, Jason McLellan<sup>2</sup>, Daniel Leahy<sup>2</sup>, Philip Beachy<sup>1</sup>.** 1) Dept Molec. Biology and Genetics, Johns Hopkins Univ. School of Medicine, Baltimore, MD; 2) Dept Biophysics & Biophysical Chemistry, Johns Hopkins Univ. School of Medicine, Baltimore, MD.

**135** - 4:30

Travels with Hedgehog. **Rebecca Dawber<sup>1</sup>, Nicola Haines<sup>2</sup>, Stephen Hebbes<sup>1</sup>, Bram Herpers<sup>3</sup>, Zillah Deussen<sup>1</sup>, Marcel van den Heuvel<sup>1</sup>.** 1) MRC Functional Genetics Unit, Dept of Human Anatomy and Genetics, Univ. of Oxford, South Parks Road, Oxford, UK; 2) Rutgers Univ., Waksman Institute, 190 Frelinghuysen Road, Piscataway, NJ; 3) Dept of Cell Biology, Utrecht Univ., Heidelberglaan 100, Utrecht, Netherlands.

**136** - 4:45

The Pelle kinase is regulated by multiple phosphorylation events. **Par Towb, Steven A. Wasserman.** Division of Biological Sciences, University of California, San Diego.

5:00 - **Break**

**137** - 5:30

Matching catalytic activity to developmental function: the case of *Drosophila* Toll-like receptors. **Mihaela Serpe, Michael B. O'Connor.** HHMI and University of Minnesota, Department of Genetics, Cell Biology and Development, Minneapolis, MN.

**138** - 5:45

*Drosophila* Nemo attenuates Dpp signaling pathway by inhibiting nuclear accumulation of Mad. **Yi A. Zeng, Esther Verheyen.** Molecular Biology and Biochemistry, Simon Fraser University, Burnaby, BC, Canada.

**139** - 6:00

Smad gain of function alleles from *Drosophila* and human suggest that multiple mechanisms of tumorigenesis are associated with Smad mutations. **Stuart J. Newfeld<sup>1</sup>, Eric Herbig<sup>1</sup>, David Zhitomersky<sup>2</sup>, Michael B. O'Connor<sup>2</sup>, Norma Takaesu<sup>1</sup>.** 1) Sch Life Sci, Arizona State Univ, Tempe; 2) Genetics, Cell Biol and Dev, Univ. Minnesota/HHMI.

**140** - 6:15

The role of post-translational modifications in the function of Dof, a specific adaptor for FGF signalling. **Agnes Csizsar, Robert Wilson, Alysia Battersby, Maria Leptin.** Institute of Genetics, University of Cologne, Köln, Germany.

Saturday, April 2: 4:00 pm–6:30 pm  
Golden West Room

### Gametogenesis and Sex Determination

Moderator: Michelle Arbeitman, University of Southern California, Los Angeles

**141** - 4:00

Germ cells use extracellular extensions regulated by the JAK/STAT pathway for migration. **Stephen Brown<sup>1</sup>, Martin Zeidler<sup>2</sup>, James Castelli-Gair Hombria<sup>3</sup>**. 1) Life Sciences, University of Manchester, Manchester, United Kingdom; 2) Molecular Developmental Biology, MPI for BpC, Am Fassberg 11, 37077 Goettingen, Germany; 3) Centro Andaluz de Biología del Desarrollo, Universidad Pablo de Olavide, Carretera de Utrera Km 1, 41013 Seville, Spain.

**142** - 4:15

Core Components of the RNAi Machinery Are Key Regulators of the Germline Fate. **Heather Megosh<sup>1</sup>, Dan Cox<sup>2,3</sup>, Hafan Lin<sup>2</sup>**. 1) Pharmacology and Cancer Bio, Duke University, Durham, NC; 2) Dept of Cell Biology, Duke University, Durham, NC; 3) Current Address: Department of Molecular & Microbiology, George Mason University, Manassas, VA 20110.

**143** - 4:30

Regulation of spindle orientation by Apc2 tumor suppressor and JAK-STAT pathway in asymmetric stem cell division in *Drosophila* male germ line. **Yukiko M. Yamashita, Margaret T. Fuller**. Dept Dev Biol, Sch Medicine, Stanford Univ Sch Medicine, Stanford, CA.

**144** - 4:45

Global Analyses of X chromosome dosage compensation. **Vaijayanti Gupta<sup>1</sup>, Michael Parisi<sup>1</sup>, David Sturgill<sup>1</sup>, Rachel Nutall<sup>2</sup>, Scott Eastman<sup>2</sup>, Brian Oliver<sup>1</sup>**. 1) LCDB, NIDDK/NIH, Bethesda, MD; 2) Incyte Genomics, Palo Alto, CA.

5:00 - **Break**

**145** - 5:30

Sex-lethal associates with the membrane components of the Hh signaling pathway. **Sabrina L. Walthall<sup>1</sup>, Michelle Moses<sup>1</sup>, Jamila Horabin<sup>2</sup>**. 1) Dept Biochem Molec Gen, Univ Alabama at Birmingham, Birmingham, AL; 2) Dept Biomedical Sciences, College of Medicine, Florida State University, Tallahassee, FL.

**146** - 5:45

Spitz and Keren, but not Gurken or Vein, contribute to guiding the border cells during oogenesis. **Jocelyn A. McDonald<sup>1,2</sup>, Elaine M. Pinheiro<sup>2</sup>, Lisa Kadlec<sup>3</sup>, Trudi Schupbach<sup>3</sup>, Denise J. Montell<sup>2</sup>**. 1) Dept. Molecular Biology, Cleveland Clinic Foundation Lerner Research Institute, Cleveland, OH; 2) Dept. Biological Chemistry, Johns Hopkins School of Medicine, Baltimore, MD; 3) HHMI and Dept. Molecular Biology, Princeton University, Princeton, NJ.

**147** - 6:00

Role of fringe for cell migration during late oogenesis. **Muriel Grammont**. Unite Inserm 384, Faculte de medecine, Clermont-Ferrand, France.

**148** - 6:15

*squid* functions in AP axis determination in early and mid-oogenesis. **Josefa Steinhauer, Daniel Calderon**. Department of Biological Sciences, Columbia University, New York, NY.

Saturday, April 2: 4:00 pm–6:30 pm  
California Room

### *Drosophila* Models of Human Diseases

Moderator: Ming Guo, University of California, Los Angeles

**149** - 4:00

Impact of qualitative and quantitative variation of nutrients on life history traits in *D. melanogaster*. **Pankaj Kapahi<sup>1</sup>, Gil Carvalho<sup>2</sup>, Horng-Dar Wang<sup>2</sup>, Paul Karayan<sup>2</sup>, Seymour Benzer<sup>2</sup>**. 1) Buck Institute for Age Research, Novato, CA; 2) California Institute of Technology, Pasadena, CA.

**150** - 4:15

A Living Reporter for APP Gamma-Secretase Activity Identifies Novel Genes. **Garrett Gross, Renny Feldman, Ming Guo**. Dept of Neurology, UCLA Brain Research Inst., CA.

**151** - 4:30

dCBP Mediates Polyglutamine Aggregation and Contributes to Polyglutamine-induced Neurodegeneration. **Pedro Fernandez-Funez<sup>1</sup>, Alex Doetsch<sup>2</sup>, Patrick Duffy<sup>2</sup>, Juan Botas<sup>3</sup>**. 1) Dept Neurology, Univ Texas Medical Branch, Galveston, TX; 2) Dept of Biology, Indiana University, IN; 3) Dept of Mol. and Human Genetics, Baylor College of Medicine, Houston, TX.

**152** - 4:45

Autophagy's Role in Adult *Drosophila* Neural Degeneration. **Kim D. Finley<sup>1</sup>, Anne Simonsen<sup>1, 2</sup>, Vanessa Galaviz<sup>1</sup>, Pam Maher<sup>1</sup>, Malcom Wood<sup>3</sup>, David Schubert<sup>1</sup>**. 1) Cellular Neurobiology Lab, Salk Inst Biological Studies, La Jolla, CA; 2) Institute for Cancer Research Norwegian Radium Hospital, Montebello, 0310 Oslo, Norway; 3) Core Microscopy Facility, The Scripps Research Institute, La Jolla, CA 92037.

5:00 - **Break**

**153** - 5:30

Problems in axonal transport pathways contribute to early neuropathology observed in polyglutamine (polyQ) diseases. **Shermali Gunawardena, Cheryl Herrera, Lawrence S. B. Goldstein**. Cell & Molec Medicine/HHMI, Univ California San Diego, La Jolla, CA.

**154** - 5:45

Inhibition of protein methylation by expanded polyglutamines. **Parsa Kazemi-Esfarjani<sup>1</sup>, Zahra Fayazi<sup>1</sup>, Jason M. Myers<sup>1,2</sup>, John Aletta<sup>2</sup>**. 1) Dept Physiology & Biophysics, Univ Buffalo, NY; 2) Dept. of Pharmacology & Toxicology, Univ Buffalo, NY.

**155** - 6:00

A *Drosophila* model for blood cell survival in leukemia: Identification of *Drosophila* PDGF/VEGF Receptor modifiers by genome-wide RNAi screening. **Katja Brückner<sup>1</sup>, Norbert Perrimon<sup>1,2</sup>**. 1) Dept of Genetics, Harvard Medical School, Boston, MA; 2) Howard Hughes Medical Institute.

**156** - 6:15

Exploring the specificity of acetylation in a *Drosophila* model of Huntington's disease. **Judit Pallos<sup>1</sup>, László Bodai<sup>1</sup>, Leslie Michels Thompson<sup>2,3</sup>, J. Lawrence Marsh<sup>1,4</sup>**. 1) Developmental and Cell Biology, UCI, Irvine, CA; 2) Psychiatry and Human Behavior, UCI, Irvine, CA; 3) Biological Chemistry, UCI, Irvine, CA; 4) Developmental Biology Center, UCI, Irvine, CA.