

## **CURRICULUM VITAE: Norbert Perrimon, Ph.D**

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### **PERSONAL INFORMATION**

- Born: 24 October 1958, Bosguerard de Marcouville, France
- Citizenships: France, USA (2005)

### **EDUCATION**

- Undergraduate at University of Paris VI. Maitrise of Biochemistry, 1981
- Graduate Student at University of Paris VI. “These de 3<sup>e</sup> cycle” Title: “Analyse clonale de l’ovogenese chez *Drosophila melanogaster*”. Professor Madeleine Gans, thesis advisor, 1983
- Postdoctoral Research Fellow at Case Western Reserve University in the laboratory of Dr. Anthony P. Mahowald, 1983-1986

### **APPOINTMENTS**

- Assistant Professor, Department of Genetics, Harvard Medical School, 1986-1993
- Assistant Investigator, Howard Hughes Medical Institute, 1986-1993
- Associate Professor, Department of Genetics, Harvard Medical School, 1993-1996
- Associate Investigator, Howard Hughes Medical Institute, 1993 - 1997
- Professor, Department of Genetics, Harvard Medical School, 1996-present
- Investigator, Howard Hughes Medical Institute, 1997-present
- Affiliate Member, Harvard Stem Cell Institute, 2005-present
- Associate Member, Broad Institute, 2006-present
- Adjunct Professor, Molecular and Cellular Biology Department, Harvard University, 2015-Present.
- FlyBase PI. 2015-Present.

### **AWARDS/HONORS**

- Lucille P. Markey Scholar in Biomedical Sciences, 1985
- Investigator, Howard Hughes Medical Institute, 1986-present
- Chaire d’Etat. College de France. Paris, 2003
- George W. Beadle Medal, Genetics Society of America, 2004

- RNAi Innovator Award, Gene Expression Systems, 2009
- Elected, American Academy of Arts and Sciences, 2008
- Elected, American Association for the Advancement of Science, 2009
- Elected, Associate Member of EMBO, 2011
- James Stillman Professor of Developmental Biology, 2011-present
- Elected, National Academy of Sciences, 2013
- Transformative Research Award, NIH, 2018

### **DISTINGUISHED LECTURES/ KEYNOTES**

Keynote: FASEB meeting. Protein Phosphatases, 1994. Keynote: Developmental Biology meeting, 1994. Keynote: French Developmental Biology meeting, Marseille, 2001. Keynote: Ohio University, 2001. Keynote: Japanese Cell Biology meeting, Yokohama, 2002. Boehringer Ingelheim Lecture, IRCM Montreal, 2002. Keynote: Bone and Teeth GRC, 2003. Sloan Kettering, President Lecture, 2003. R. Williams Lecture (Penn), 2004. Richard Akesson Lecture (Cincinnati), 2004. UCSD, Distinguished Lecturer, 2004. Keynote: FASEB meeting on Growth Factor signaling, 2005. Keynote: Keystone meeting on Signaling Networks, 2006. Sterling Lecture, DFCI, 2006. Fox Chase, Distinguished Lecturer, 2008. NCI, Distinguished Lecturer, 2008. Keynote: Lorne Cancer conference, 2008. Keynote: Protein Phosphorylation, Salk, 2008. Keynote: Sheffield Symposium, 2008. Keynote: RNAi Summit Boston, 2009. Society of Fellows, Scripps 2009. Keynote: ICDB retreat, Star Institute Singapore, 2009. Keynote: Recomb 2010, Lisbon. Alma Howard Lecture, McGill, 2011. Keynote: Asian *Drosophila* meeting, Taiwan, 2011. Keynote: Montreal Bioinformatics User Group, 2011. Blaffer lecture MD Anderson, 2011. Keynote: 25<sup>th</sup> French *Drosophila* Conference, 2011. Sarah Winans Newman lecture, Ann Harbor, 2012. Keynote: Integrative Network Biology 2012, Denmark. Keynote: From stem cells to morphogenesis, Curie Institute, 2012. Keynote: UK Genes & Cancer meeting 2012. Keynote: ICSB, Copenhagen, 2013. Keynote, FEBS JAK/STAT signaling, Nottingham, 2013. Keynote: 2014 Northwest Developmental Meeting. Keynote: 2014 RNAi/CRISPR meeting, San Diego. Keynote: 2014 Model Organism Resources. Keynote: 2015 NTU opening symposium, Singapore. 2015: Annual Kaulenas Lecture. Keynote: 2015 Trans-NIH Developmental Biology Group, NIH. Keynote 45<sup>th</sup> Annual meeting Brazilian Society of Biochemistry and Molecular Biology, Natal, Brazil. 2017 USIAS Public Lecture, Strasbourg. Keynote: Societe Francaise de Genetique, Montpellier 2017. Keynote: ERATO /CREST/PREST Joint International Symposium “Inter-Organ Communication”, Kyoto 2017. Keynote: “Insect Hormones”, Crete, 2019.

### **PANELS, COMMITTEES, SCIENTIFIC ADVISORY BOARDS**

**Past:** NSF. Review Panel. Biological Instrumentation and Resources, 1991-1992. NSF, Academic Research Infrastructure, 1992. NCI, NIH. Member Special Study Section, 1994 -1995. NINDS, NIH. AdHoc reviewer, 1997. NSF, Developmental Mechanisms Review Panel, 1993-1998. CNRS, Marseille, Scientific Review Committee, 1999. *Drosophila* Developmental Biology Meeting Committee. *Drosophila* Crete meeting committee, 1995-2008. CNRS review committee, Curie UMR-144, 2002. EMBL, Scientific Review Committee, 2003. MDCN-5, NIH. Study Section, 2003. HFSP Fellowship review committee, 2004-2007. ZRG1 FO5 NIH Fellowships Study Section,

2004-2006. Carnegie Institute, Scientific Review Committee, 2004. MGB, NIH. Study Section, 2005. Cell Biology Keystone Symposia Study Group, 2005. Scientific Review Group ZNS1 SRB, 2006. ZRG1 FO5 NIH Fellowships Study Section, 2004-2006. NSF SBIR Panel. 2007. GATC, NIH. Study Section, 2008. ERC reviewer, 2009. NIBS, Beijing - Scientific Advisory Board. 2007-2009. Harvard Medical School Scientific advisory committee on siRNA technology, 2003-2010. Labex-France 2011. Damon Runyon Scientific Advisory Committee, 2007-2011. TSC- Department of Defense, 2012. NINDS review panel, 2013. NIH study section Development, 2013. Charles A. King Trust Postdoctoral Research Fellowship Program. 2012-2015. Tuberos Sclerosis writing group 2015. Norwegian Centres of Excellence selection committee, 2017. DFG Centres of Excellence selection committee, 2017. HFSP writing group on life science and biomedical databases, 2016. Crick Institute, review committee, 2018. CRUK, review panel. 2018, 2019. CIFAR, review panel, 2018. NIH panel, resource. EMBL Scientific Review Committee, 2019.

**Current:** U.S. *Drosophila* Stock Center Advisory Board, 1996-present. IGBMC, Strasbourg - Scientific Advisory Board, 2006-present. Max Planck Institute for Biology of Aging (Cologne) - Scientific Advisory Board, 2011-present. ERC Horizon 2020, 2015-2020. Venitian Institute of Molecular Medicine - Scientific Advisory Board, 2016-present. Alliance for Genomics Research (AGR) Scientific Advisory Board, 2016-present. Scientific Advisory Board of the TATA Institute of Genetics and Society, 2018-present.

#### **SEMINARS, RESEARCH PRESENTATIONS, MEETINGS (last 5 years)**

**2013:** Yale University. University of Virginia. HMS, retreat. RNAi workshop, HMS. HHMI meeting, Bethesda. TALEN workshop, Janelia Farm. Neuronal Development Symposium, Baylor. Keystone meeting Snowbird, Cardiac remodeling. Cell Polarity, London. ICR, London. Univ. Colorado, Denver. Broad, Cell Circuitry. AACR, Seattle. Gordon Research Conference Myogenesis, Italy. EXROP, Boston. Cell polarity FASEB, Steamboat. ICSB, Copenhagen. JAK/STAT, Nottingham. STARR, CSHL. Skirball Symposium, NYU. Stanford. University of Chicago. University of Utah, SLC.

**2014:** Keystone meeting on aging, Steamboat. Rigel pharmaceuticals. NYU Abu Dhabi. Northwest Developmental Meeting, Friday Harbor Labs. Stem cell Symposium, University of Washington. Ohio State University. HHMI meeting. NAS, Washington DC.

Smithies Symposium, Madison. CCSB symposium, Boston. ncRNA meeting, San Diego. Wellcome *Drosophila* course, England. WoodsHole course, aging. NIH, model organisms. Renato Paro Symposium, Basel. NCI workshop, Houston. Wiley, New Jersey. Boston Genome. Broad Institute, Boston. Jackson Lab. HTS symposium, Curie Institute. DFCI Cancer retreat. Burnham, San Diego.

**2015:** Keystone meeting on cell signaling, Steamboat. Dow Pharmaceuticals. Nanocourse RNAi, HMS. Boston University. HMS, Department of Genetics Retreat. Workshop, *Drosophila* meeting, Chicago. NIH, TSC workshop. UNC North Carolina. Keystone meeting, Whistler. Novartis. SDB, Warwick England. IMBA, Vienna. IGBMC, Strasbourg. HHMI. STARR, CSHL. TSC symposium, DFCI. Aging meeting, Crete. "Cancer in flies", Barcelona. Univ of Milan. ORIP strategic planning, NIH. EXROP, Boston. Flies, Monarch and Mosquitoes, University of Maryland. EDRC, 2015 Heidelberg. BIDMC, Boston. NTU, Singapore. ERC, Brussels. Max Planck, Cologne.

CSHA, China. FlyBase SAB. Princeton Univ. Univ. Mass Amherst. IRCM, Montreal. NIH, Washington DC. Broad retreat. MCB, Harvard.

**2016:** Keystone meeting Hippo signaling. Lisbon. ERC, Brussels. Janelia Farm. HMS, Departmental Retreat. Nanocourse, Organ communication. NIH, single cell analysis. Muscle meeting, Israel. University of Tennessee, Knoxville. Biocuration 2016, Geneva. HHMI meeting. Starr retreat, CSHL. NHGRI uMOD. Imagine Institut, Paris. VIMM, Italy. World Preclinical Congress, Boston. 45<sup>th</sup> Annual meeting Brazilian Society of Biochemistry and Molecular Biology, Natal, Brazil. Wellcome *Drosophila* Course, Hinxton. ATCG, Orlando. NIH ORIP. CWRU, Cleveland. UTSW, Dallas. HFSP, Database meeting. UNM, New Mexico.

**2017:** AACR, San Diego. Dept retreat, Boston. IGBMC, Strasbourg. University of Strasbourg. Starr retreat, CSHL. EMBO meeting metabolomics, Heidelberg. QFO2017, USC. WPC congress, Boston. ISDB, Singapore. Stem Cell Institute, Singapore. Dev Biol conference, Pune, India. HHMI meeting, Janelia. EDRC, London. Institut of Neuroscience, Alicante. CGR, Barcelona. Tango, therapeutics, Boston. UNM, Albuquerque. Entomology meeting, Denver. French Society of Genetics, Montpellier. Brandeis Univ. ERATO International Symposium, Japan. RIKEN, Japan.

**2018:** Columbia Medical School. Stowers. AGR, Caltech. Keystone meeting, Taos. Stowers. ADRC, Philadelphia. Tsinghua Univ, China. Institute of Biophysics, China. Keystone meeting, Kyoto. Genome editing, Boston. Institut Pasteur, Paris. Genome editing and functional genomics, NIG - Japan. Welcome *Drosophila* course, England. GRC, stem cells. HHMI meeting, Janelia. FlyBase SAB, Boston. TATA Institute, Bangalore. Madeleine Gans Symposium, Paris.

**2019:** Keystone meeting, Cellular plasticity. HMS, Department of Genetics Retreat. scRNAseq meeting, Janelia. *Drosophila* meeting, Dallas. Barcelona, “*Drosophila* as a cancer model”. EMBL, review committee. Xuzhou Cancer Hospital. France-USC stem cell meeting. “Insect Hormones”, Crete. EDRC, Lausanne. FlyBase SAB. Mount Sinai, New York. MIT, Boston. TIGs, San Diego. AGR, Boston.

## MEETINGS ORGANIZED

Segment polarity Genes. HHMI workshop, Co-organizer with Dr. R. Nusse, 1991. EGF receptor signaling in development and disease Ames Iowa. Co-organizer with Drs. M. Nilsen-Hamilton and E. Adamson, 1997. Wnt genes. Boston. Co-organizer with Drs. R. Nusse and A. McMahon, 1998. “Signaling molecules in Development” Satellite meeting. ASBMB. Washington, D. C., 1998. Specificity in Signal Transduction. Keystone Symposia. Co-organizer with Dr. T. Pawson. 1999. Workshop on “Techniques”, Annual *Drosophila* meeting, San Diego, 2002. Program Committee: American Society for Cell Biology, 2003. Epithelial Polarity (France). Co-organizer with T. Lecuit and K. Mostov, 2004. “RNAi”. Fondation Les Treilles (France), 2004. Cell Polarity. Keystone Symposia. Co-organizer with Dr. B. Margolis and F. Schweisguth, 2005. RNAi Workshop. Co-organizer with Dr. B. Mathey-Prevot. *Drosophila* meetings, 2005-2006. Mini Symposium on image analysis, HMS, 2006. Atelier Inserm, France, Co-organizer with Dr. B. Mathey-Prevot, 2007. Workshop on Pattern Formation in Morphogenesis, IHES Paris, Co-organizer 2010. ISDB 2013 International committee. *Drosophila* Resources, Janelia 2016. EMBO, Heidelberg - Co-organizer, Metabolism in Time and Space 2017. Co-organizer scRNAseq, Janelia 2019. Co-organizer USC-ISCCR satellite stem cell meeting with A. McMahon, 2019. Co-organizer EDRC gut workshop with A. Bardin, 2019.

## EDITORIAL BOARDS

**Past:** Guest Editor. Issue of Methods on Manipulation of gene expression, 1998. Co-Editor with Dr. C. Stern, Current Opinion in Cell Biology, 1999. Co-Editor with Dr. M. Bernfield, Seminars in Cell Biology, 2001. Principle Editor, Signaling. TheScientificWorld, 2000-2002. Genes and Development, Editorial Board, 1999-2004. Advisor for Nature Cell Biology, 2001-2002. Development, Editorial Board, 1999-2006. Developmental Biology, Editorial Board, 1995-2007. Review Editor, Developmental Cell, 2001-2008. Mechanisms of Development, Editorial Board, 1999-2010. Advisor for Nature Reviews in Molecular and Cell Biology, 2000-2011. Co-Editor with Dr. N. Barkai, BioMed Central Silence, 2009-2011. Current Opinion in Genetics and Development, 2011. Editor - Issue of Methods on *Drosophila* Development, 2014. Associate Editor, Diseases, Models and Mechanisms, special issue, 2016. Development, 2013-2018. Co-editor with Drs. G. Echaliier and S. Mohr, *Drosophila* Cells in Culture. Academic Press, 2018 .

**Current:** BioMed Central Dev. Biol., 2000-present. Molecular and Cellular Biology, 2000-present. Associate of Faculty of 1000, 2001-present. The International Journal of Developmental Biology, 2002-present. BioMed Central Genomics, 2005-present. Genome Biology, 2008-present. PLoS Genetics, 2008-present. Science Signaling, 2008-present. Genetics, 2008-present. Developmental Cell, 2009-present. Molecular Systems Biology, 2009-present. WIREs-Developmental Biology, 2010-present. EMBO Reports, 2011-present. Flybook, 2015-present. Diseases, Models and Mechanisms, 2016-present. BioMed Central-Biology, 2016-present.

## UNIVERSITY ACTIVITIES

Co Director of the Cell and Developmental Biology Training Grant, 1994. Dana Farber executive committee, Developmental Biology Program, 2000. Standing Committee on Faculty Fellowships, HMS, 1999-2004. Armenise Foundation Grant Committee, 2000-2002. Committee on Imaging Facility, 2002. Committee on HMS Research Compliance, 2003-2004. Committee for Merck awards for Genome related research, 2003-2006. Faculty Advisory Committee on Administration and Management, 2004-2008. HMS University Evaluation Committee, 2010. Co-Director, *Drosophila* RNAi Screening Center at Harvard Medical School, 2003—present.

Committee on Tools and Technology, 2011-2018. Micron Imaging Committee 2016-present.  
Foundry committee, 2019.

### CONSULTING ACTIVITIES

Novartis, 2003-2004.

EnVivo Pharmaceuticals, Scientific Advisory Board, 2003-2005.

Tango Therapeutics, 2017.

### PATENTS

- Cell ablation using trans-splicing ribozymes, US patent #5,641,673.

- Conditional Inteins, US patent application # 20040091966.

- *Drosophila* tumor stem cell model and uses thereof. US patent application # 20130096067.

- Compositions and methods for inhibiting cell proliferation. U.S. Patent Application  
"15/555331.

### WEB SITES

<http://www.hms.harvard.edu/dms/bbs/fac/perrimon.html>

<http://genetics.med.harvard.edu/~perrimon/>

<http://www.hhmi.org/research/investigators/perrimon.html>

<http://flyrnai.org>

### SELECTED RESEARCH ACCOMPLISHMENTS

- . Germline clonal analyses methods (ovoD, FLP-FRT)
- . Signaling pathway components (RTK, Wnt, JAK/STAT, JNK, Hippo, HSPGs)
- . Gal4-UAS technique
- . Genome-wide highthroughput RNAi and CRISP/Cas9 screens in *Drosophila* cells
- . Identification of adult gut stem cells
- . CRISP/Cas9 overexpression methods
- . Transgenic shRNA and gRNA genome scale libraries
- . In vivo APEX and BirA proximity labeling methods
- . Interorgan communication factors
- . Identification of cachexia factors

### PUBLICATIONS

#### Research Papers

- 1) Perrimon, N. and Gans, M. (1983) Clonal analysis of the tissue specificity of recessive female sterile mutations of *Drosophila melanogaster* using a dominant female sterile mutation *Fs(1)K1237*. Dev. Biol. **100**, 365-373.
- 2) Perrimon, N. (1984) Clonal analysis of dominant female sterile, germline-dependent mutations in *Drosophila melanogaster*. Genetics **108**, 927-939.
- 3) White, R. H., Perrimon, N and Gehring, W. J. (1984) Differentiation markers in *Drosophila* ovary. J. E. E. M. **84**, 275-286.
- 4) Perrimon, N., Engstrom, L., and Mahowald, A. P. (1984). The effects of zygotic lethal mutations on female germ-line functions in *Drosophila*. Dev. Biol. **105**, 404-414.

- 5) Perrimon, N., Engstrom, L., and Mahowald, A. P. (1984). Developmental genetics of the 2E-F region of the *Drosophila* X-chromosome: A region rich in "developmentally important " genes. *Genetics* **108**, 559-572.
- 6) Perrimon, N., Engstrom, L., and Mahowald, A. P. (1985). A pupal lethal mutation with a paternally influenced maternal effect on embryonic development in *Drosophila melanogaster*. *Dev. Biol.* **110**, 480-491.
- 7) Perrimon, N., Engstrom, L., and Mahowald, A. P. (1985). Developmental genetics of the 2C-D region of the *Drosophila* X-chromosome. *Genetics* **111**, 23-41.
- 8) Mortin, M. A., Perrimon, N. and Bonner, J. J (1985) Clonal analysis of two mutations in the large subunit of RNA polymerase II of *Drosophila*. *Mol. Gen. Genet.* **199**, 421-426.
- 9) Degelmann, A., Hardy, P., Perrimon, N. and Mahowald, A. P. (1986) Developmental analysis of the torso-like phenotype in *Drosophila* produced by maternal effect locus. *Dev. Biol.* **115**, 479-489.
- 10) Perrimon, N., Mohler, J. D., Engstrom, L and Mahowald, A. P. (1986) X-linked female sterile loci in *Drosophila melanogaster*. *Genetics* **113**, 695-712.
- 11) Perrimon, N. and Mahowald, A. P. (1986) *l(1)hopscotch* a larval-pupal lethal with a specific maternal effect on segmentation in *Drosophila*. *Dev. Biol.* **118**, 28-41.
- 12) Petschek, J., Perrimon, N., and Mahowald, A. P. (1987). Region specific effects in *l(1)giant* embryos of *Drosophila melanogaster*. *Dev. Biol.* **119**, 175-189.
- 13) Perrimon, N. and Mahowald, A. P. (1987) Multiple functions of the segment polarity genes in *Drosophila*. *Dev. Biol.* **119**, 587-600.
- 14) Mark, G. E., MacIntyre, R. J., Digan, M. E., Ambrosio, L. and Perrimon, N. (1987) *Drosophila melanogaster* homologs of the *raf* oncogene. *Mol. Cell. Biol.* **7**, 2134-2140.
- 15) Oliver, B., Perrimon, N. and Mahowald, A. P. (1987) The *ovo* locus is required for sex specific germ line maintenance in *Drosophila*. *Genes and Dev.* **1**, 913-923.
- 16) Perrimon, N. (1988) The maternal effect of *l(1)discs-large-1*, a recessive oncogene in *Drosophila melanogaster*. *Dev. Biol.* **127**, 392-407.
- 17) Oliver, B., Perrimon, N. and Mahowald, A. P. (1988) Genetics evidence that the *sans-fille* locus is involved in *Drosophila* sex determination. *Genetics* **120**, 159-171.
- 18) Smouse, D., Goodman, C., Mahowald, A. P. and Perrimon, N. (1988) *polyhomeotic*: A gene required for the embryonic development of axon pathways in the central nervous system of *Drosophila*. *Genes and Dev.* **2**, 830-842.
- 19) Ng, S-C., Perkins, L. A., Conboy, G., Perrimon, N. and Fishmann, M. (1989) A *Drosophila* gene expressed in the embryonic CNS shares one conserved domain with the mammalian GAP-43. *Development.* **105**, 629-638.
- 20) Perrimon, N., Engstrom, L., and Mahowald, A. P. (1989) Zygotic lethals with specific maternal effect phenotypes in *Drosophila melanogaster*. I. Loci on the X-chromosome. *Genetics* **121**, 333-352.
- 21) Perrimon, N., Smouse, D. T. and Miklos, G. L. G. (1989) Developmental genetics of loci at the base of the X-chromosome of *Drosophila melanogaster*. *Genetics* **121**, 313-331.

- 22) Perrimon, N., and Smouse, D. (1989) Multiple functions of a *Drosophila* homeotic gene, *zeste-white 3*, during segmentation and neurogenesis Dev. Biol. **135**, 287-305.
- 23) Klingensmith, J., Noll, E. and Perrimon, N. (1989) The segment polarity phenotype of *Drosophila* involves differential tendencies toward transformation and cell death. Dev. Biol. **134**, 130-145.
- 24) Ambrosio, L. Mahowald, A. P. and Perrimon, N. (1989) *l(1)pole hole* is required maternally for pattern formation in the terminal regions of the embryo. Development **106**, 145-158.
- 25) Ambrosio, L. Mahowald, A. P. and Perrimon, N. (1989) Requirement of the *Drosophila* raf homologue for *torso* function. Nature **342**, 288-291.
- 26) Perkins, L. A., Doctor, J. S., Zhang, K., Stinson, L., Perrimon, N. and Craig. E. A. (1990) Molecular and developmental characterization of the *heat shock cognate 4* gene of *Drosophila melanogaster*. Mol. Cell. Biol. **10**, 3232-3238.
- 27) Smouse, D. T. and Perrimon, N. (1990) Genetic dissection of a complex neurological mutant, *polyhomeotic*, in *Drosophila*. Dev. Biol. **139**, 169-185.
- 28) Zhang, K., Chaillet, R., Perkins, L. A., Halazonetis, T. and Perrimon, N. (1990) *Drosophila* homolog of the mammalian *jun* oncogene is expressed during embryonic development and activates transcription in mammalian cells. P.N.A.S. **87**, 6281-6285.
- 29) Finkelstein, R., Smouse. D. T., Capaci, T., Spradling, A. C. and Perrimon, N. (1990) The *orthodenticle* gene encodes a novel homeodomain protein involved in the development of the *Drosophila* nervous system and ocellar visual structures. Genes and Dev. **4**, 1516-1527.
- 30) Finkelstein, R. and Perrimon, N. (1990) The *orthodenticle* gene is regulated by *bicoid* and *torso* and specifies *Drosophila* head development. Nature **346**, 485-488.
- 31) Siegfried, E., Perkins, L. A., Capaci, T. M. and Perrimon, N. (1990) Putative protein kinase product of the *Drosophila* segment-polarity gene, *zeste-white 3*. Nature **345**, 825-829.
- 32) Zhang, K. Smouse, D. T. and N. Perrimon (1991) The *crooked neck* gene of *Drosophila* contains a motif found in a family of yeast cell cycle genes. Genes and Dev. **5**, 1080-1091.
- 33) Perrimon, N., Noll, E., McCall, K. and Brand, A. (1991) Generating lineage-specific markers to study *Drosophila* development. Dev. Genet. **12**, 238-252.
- 34) Eberl, D. Perkins, L. A., Engelstein, M., Hilliker, A., and N. Perrimon. (1992) Developmental genetics of loci in region 17 of the X-chromosome of *Drosophila melanogaster*. Genetics **130**, 569-583
- 35) Kassis, J. A., Noll, E., VanSickle, E., Odenwald, W. and N. Perrimon. (1992) Altering the insertion specificity of a *Drosophila* transposable element. P.N.A.S. **89**, 1919-1923.
- 36) Chou T. B., and N. Perrimon (1992) Use of a yeast site-specific recombinase to produce female germline chimeras in *Drosophila*. Genetics **131**, 643-653.
- 37) Perkins, L. A., Larsen, I., and Perrimon, N. (1992) *corkscrew* encodes a putative protein tyrosine phosphatase that functions to transduce the terminal signal from the receptor tyrosine kinase *torso*. Cell **70**, 225-236



- 38) Rutledge, B., Zhang, K., Bier, E., Jan, Y. N. and Perrimon, N. (1992) The *Drosophila spitz* gene encodes a putative EGF-like growth factor involved in dorsal-ventral axis formation and neurogenesis. *Genes and Dev.* **6**, 1503-1517.
- 39) Wieschaus, E., Perrimon, N. and Finkelstein, R. (1992) *orthodenticle* activity is required for the development of medial structures in the larval and adult epidermis of *Drosophila*. *Development* **115**, 801-811.
- 40) Siegfried, E. Chou, T-B, and Perrimon, N. (1992) *wingless* signaling acts through *zeste-white 3*, the *Drosophila* homologue of *glycogen synthase kinase-3*, to regulate *engrailed* and establish cell fate. *Cell* **71**, 1167-1179.
- 41) Dang, D. T. and Perrimon, N (1992) Use of a yeast site-specific recombinase to generate embryonic mosaics in *Drosophila*. *Dev. Genetics.* **13**, 367-375.
- 42) Lu, X. Chou T. B, Williams, N., Roberts, T. and Perrimon, N. (1993) Control of cell fate determination by *p21<sup>ras</sup>/Ras1*, an essential component of *torso* signaling in *Drosophila*. *Genes and Dev.* **7**, 621-632.
- 43) Melnick, M. B. Perkins, L. A., Lee, M., Ambrosio, L. Perrimon, N. (1993) Developmental and molecular characterization of mutations in the *Drosophila raf* serine-threonine protein kinase. *Development* **118**, 127-138.
- 44) Brand, A. and Perrimon, N. (1993) Targeted gene expression as a means of altering cell fates and generating dominant phenotypes. *Development* **118**, 401-415.
- 45) Harrison, D. and Perrimon, N. (1993) Simple and efficient generation of marked clones in *Drosophila*. *Current Biology.* **3**, 424-433.
- 46) Melnick, M. B., Noll, E. and Perrimon, N. (1993) The *Drosophila stubarista* phenotype is associated with a dosage effect of the putative ribosome-associated protein D-p40 on *spineless*. *Genetics* **135**, 553-564.
- 47) Chou, T.-B., Noll, E. and Perrimon, N. (1993) Autosomal *P[ovo<sup>DI</sup>]* dominant female sterile insertions in *Drosophila* and their use in generating germline chimeras. *Development* **119**, 1359-1369.
- 48) van den Heuvel, M., Harryman-Samos, C., Klingensmith, J., Perrimon, N. and Nusse, R. (1993) Mutations in the segment polarity genes *wingless* and *porcupine* impair secretion of the wingless protein. *EMBO. J.* **12**, 5293-5303
- 49) Siegfried, E., Wilder, E. and Perrimon, N. (1994) Components of *wingless* signaling in *Drosophila*. *Nature* **367**, 76-80.
- 50) Noordermeer, J., Klingensmith, J., Perrimon, N. and Nusse, R. (1994) *dishevelled* and *armadillo* are essential components of the *wingless* signaling pathway in *Drosophila*. *Nature* **367**, 80-83.
- 51) Klingensmith, J., Nusse, R. and Perrimon, N. (1994) The *Drosophila* segment polarity gene *dishevelled* encodes a novel protein required for response to the *wingless* signal. *Genes and Dev.* **8**, 118-130.
- 52) Binari, R. and Perrimon, N. (1994) Stripe-specific regulation of pair-rule genes by *hopscotch*, a putative Jak family tyrosine kinase in *Drosophila*. *Genes and Dev.* **8**, 300-312.
- 53) Brand, A. and Perrimon, N. (1994) Raf acts downstream of the EGF receptor to determine dorso-ventral polarity during *Drosophila* oogenesis. *Genes and Dev.* **8**, 629-639.

- 54) Lu, X., Melnick, M.B., Hsu, J-C. and Perrimon, N. (1994). Genetics and molecular analysis of mutations involved in *Drosophila-raf* signal transduction. *EMBO J.* **13**, 2592-2599.
- 55) Hsu, J-C. and Perrimon, N. (1994). A temperature sensitive MEK mutation demonstrates the conservation of the signaling pathways activated by receptor tyrosine kinases. *Genes and Dev.* **8**, 2176-2187.
- 56) Sussman, D.J., Klingensmith, J., Salinas, P., Adams, P. S., Nusse, R. and Perrimon, N. (1994) Isolation and characterization of a mouse homolog of the *Drosophila dishevelled* segment polarity gene. *Dev. Biol.* **166**, 73-86.
- 57) Wilder, E.L. and Perrimon, N. (1995). Dual functions of *wingless* in the *Drosophila* leg imaginal disc. *Development* **121**, 477-488.
- 56) Hou, X.S., Chou, T.-B., Melnick, M. and Perrimon, N. (1995). The Torso receptor tyrosine kinase can activate Raf in a Ras-independent pathway. *Cell* **81**, 63-7.
- 57) Sokol, S.Y., Klingensmith, J., Perrimon, N. and Itoh, K. (1995). Dorsalizing and neuralizing properties of Xdsh, a maternally expressed *Xenopus* homolog of *dishevelled*. *Development.* **121**, 1637-1647.
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- 30) Housden, B. E., Hu, Y. and Perrimon, N. (2016) Design and Generation of *Drosophila* Single Guide RNA Expression Constructs. J. Doudna and P. Mali, editors. CSHL Press. **9**: doi: 10.1101/pdb.prot09077. PMID:27587779
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- 33) Saavedra, P. and Perrimon, N. (2019) *Drosophila* as a model for tumor-induced organ wasting. Adv Exp Med Biol. **1167**:191-205. PMID:31520356



**Correspondence to Editors/Science Perspectives**

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- 10) Teleman, A. A. and Perrimon N. (2017) Open questions: completing the parts list and finding the integrating signals. *BMC Biol*. **15**:47. PMID:28595578.

**PREVIOUS AND CURRENT TRAINEES**

NAME	PERIOD	POSITION
<b><u>Former Ph.D. Students</u></b>		
Musacchio, M.	85-92	Research Scientist and Director, UC Irvine
Binari, R.	86-93	Lab Manager, Perrimon lab
Klingensmith, J.	86-93	Assoc. Prof. Duke
Zhang, K.	87-92	Assoc. Prof. Salt Lake City
Melnick, M.	88-93	Co-Director, Assay Designs
Yoffe, K.	90-94	Medical Doctor
Bellaiche, Y.	94-98	CR1 CNRS, Curie Institute Paris
Gayko, U.	94-98	Associate Director/Scientist, AMGEN
Schober, M.	00-03	Postdoc. Elaine Fuchs lab
Friedman, A.	02-07	MD/Ph.D. Postdoc. David Fisher lab
Cho, J	07-11	Consultant, Bain
Schnall Levin, M	07-11	Postdoc, Eric Lander lab
Gibson, T	07-11	Postdoc. David Anderson lab

Ammeux, N	11-15	Postdoc. Yves Jacob lab
Xu, C	12-18	Postdoc, Elaine Fuchs lab

**Former Postdoctoral Fellows**

Ambrosio, L.	86-91	Assoc. Prof. Zoo& Gen. Iowa State U
Perkins, L.	86-92	Assoc. Prof. MGH
Smouse, D.	87-88	Asst. Prof. Zoology, Arizona State U
Finkelstein, R.	87-92	Program Director, NINDS
Brand, A	88-92	Senior Research Fellow. Wellcome Inst. Camb
Rutledge, B.	88-92	Res. Fellow, Dana Faber.
Siegfried, E.	88-93	Asst. Prof, Penn State
Wilder, E.	90-95	Program Director, NIH
Lorenz, L.	90-96	Assoc. Prof. Worcester Univ. Mass
Chou, T.	90-94	Assoc. Prof Zoology, Natl. Taiwan Univ
Lu, X.	90-94	Asst. Prof. Univ. Alabama
Harrison, D.	91-96	Assoc. Prof Biology, Univ. Kentucky
Duffy, J.	92-96	Asst. Prof. Univ. Indiana
Hsu, R.	92-95	Asst. Prof. Natl Tsing Univ, Taiwan
Manoukian, A.	93-95	Sr. Scientist, Ontario Cancer Inst.
Kadowaki, T.	94-96	Asst. Prof. Nagoya Univ, Japan
Axelrod, J.	93-97	Assoc. Prof. Stanford University
Eberl, D.	93-98	Asst. Prof. Iowa City
Goode, S.	94-98	Asst. Prof. Baylor College of Medicine
Ghiglione, C.	96-98	Maitre Conference. Universite de Nice
Haecker, U.	95-99	Asst. Prof. Lund, Sweeden
Spana, E.	96-99	Research Scientist and Director, Duke
Lin, X.	95-00	Assoc. Prof. Cincinnati Med School
Li, W.	95-00	Assoc. Prof. Rochester Med School
The, I.	97-00	Asst. Prof. Worcester U. Mass
Zeidler, M.	96-01	Group Leader, Goettingen, Germany
Baum, B.	98-01	Asst. Prof, UCL, England
Petitt, M.	96-01	Res. Fellow, Stanford
Bilder, D.	97-01	Assoc. Prof, Berkeley
Pettersen. M.	99-01	Asst. Prof, Stockholm Sweeden
Selva, E.	96-02	Asst. Prof, Univ. of Delaware
Bach, E.	97-02	Asst. Prof, New York University
Stronach, B.	98-02	Asst. Prof, Univ. of Pittsburgh
Boutros, M.	99-03	Group Leader, Cancer Center, Heidelberg
Schoeck, F.	99-03	Asst. Prof, McGill, Quebec
Vincent, S.	00-04	Maitre Conference. ENS, Lyon
Agaisse, H.	98-04	Asst. Prof. Yale
Kiger, A.	00-04	Asst. Prof, UCSD
Baeg, G	98-05	Asst. Prof. New York Medical College
Tan, C.	01-05	Asst. Prof, Missouri
Dasgupta, R.	02-05	Asst. Prof, New York University
Silver, S.	04-06	Principal Research Investigator. Sanofi
Nybbaken, K.	00-06	Asst Prof. BBRI, Boston

Lutz Kockel	00-06	Postdoctoral Fellow, UCSF
Miccheli, C.	00-06	Asst. Prof. Washington University
Cherry, S.	00-05	Asst. Prof. Univ. of Pennsylvania
Gibson, M.	02-06	Asst. Prof. Stowers Institute
Bradley, P.	02-05	Postdoctoral Fellow, NINDS
Brouzes, E.	04-06	Asst. Prof, Stony Brook
Sepp, K.	02-07	Postdoctoral Fellow, MIT
Brueckner, K.	00-06	Asst. Prof. UCSF
Phillips, J.	03-06	Asst. Prof, New York University
Zhang, S	01-08	Asst. Prof. Univ of Texas, Houston
Bai, J	02-09	Merck, Group Leader
Bakal, C	04-09	Asst. Prof, ICR London
Rahal, R	08-10	Scientist, Blueprint Medicines
Ni, J	09-10	Assoc. Prof, Tsinghua Univ. Beijing
Li, Z	10-11	Prof, Capital Normal Univ. Beijing
Zhou, R	03-10	Asst. Prof, Burnham Institute
Kondo, S	07-11	Asst. Prof, National Institute Genetics, Japan
Pitsouli, C	05-11	Asst. Prof, Univ. of Cyprus
Markstein, M	04-11	Asst. Prof, U. Mass Amherst
Kulkarni, M	04-11	Research Scientist II, Belfer Institute
Swindell, W	09-12	Research Investigator, Ann Harbor
Demontis, F	06-12	Asst. Prof. St. Jude Hospital, Memphis
Tipping, M	11-13	Asst. Prof. Providence College
Yeh, J	09-13	Asst Prof, CSHL Cancer Center
Neumuller, R	10-13	Asst. Prof, University of Munich
Karpowicz, P	08-14	Asst. Prof, Windsor Univ.
Bergwitz, C	11-14	Asst. Prof, Yale
Samsonova, A	06-14	Head of Bioinformatics, Oxford
Owusu-Ansah, E	09-14	Asst. Prof, Columbia Medical School
Vinayagam, V	10-15	Bioinformatician, Regeneron
Sopko, R	09-15	Scientist, Biogen
Kwon, Y	08-15	Asst. Prof, University of Washington
Dequeant, M	08-16	Scientist, CRISPR Therapeutics
Rajan, R	09-16	Asst. Prof, Fred Hutchinson Cancer Center
Zirin, J	06-16	Lecturer, Harvard Med School
Wirtz-Peitz, F	10-16	Boston Consulting
Yan, D	10-16	Asst. Prof, Chinese Academy of Sciences, Shanghai
Ni, X	12-16	Scientist, Bioinformatics, Celgene
Housden, B	11-17	Asst. Prof. Life Science Institute. Exeter, England
Doupe, D	13-17	Asst. Prof. Durham University, England
Ro, J	16-17	Walker Innovation
Song, W	11-18	Asst. Prof. Wuhan University, China
He, L	12-19	Asst. Prof. Univ. of Science and Technology, China
Parkhitko, A	13-20	Asst. Prof. Univ. of Pittsburg
Rajakumar, R	17-20	Asst. Prof. Univ. of Ottawa
Tang, H-W	14-20	Asst. Prof. Duke-NUS Medical School

**Former Visiting Scientists**

Matthey-Prevot, B.	96-98	Professor, Duke Medical School
Mogila, V.	96-99	Institute of Genetics, Moscow
Noselli, S.	98-00	CR1 CNRS, Nice.
Hollenbeck, P.	2004	Professor Cell Biology. Purdue
Griffin-Shea, R.	04-07	CNRS, Grenoble
Chejanovsky, N.	06-07	Techion, Israel
Su, J.	07-08	Assoc. Prof. China
Cheng, D	11-12	Assoc. Prof. China
McCall, K	13-14	Professor, Boston Univ
Wang, X	15	Assoc. Prof. China
Li, Z	17-18	Student, Tsinghua Univ.
Li, F	18-19	Assoc. Professor, Agricultural University
Camra, H	18-19	Student, UNICAMP, Campinas, Brazil
Ingamaro, C	18-19	Student, Univ. Nacional del Litoral, Argentina
Ahmad, M	18-19	Student, Lahore University, Pakhstan

**Current Trainees**

Ram Viswanatha	3/1/14	Postdoc
Patrick Jouandin	6/1/14	Postdoc
Ben Ewen-Campen	9/1/14	Postdoc
Arpan Ghosh	3/1/15	Postdoc
Afroditi Petsakou	5/1/15	Postdoc
Justin Bosch	9/1/15	Postdoc
Nirmalya Chatterjee	11/1/15	Postdoc
Pedro Saavedra	1/1/16	Postdoc
Sudhir Gopal	5/1/16	Postdoc
Baolong Xia	4/1/17	Postdoc
Lucy Liu	9/1/17	Postdoc
Ah-Ram Kim	4/1/18	Postdoc
Ankita Singh	7/1/18	Postdoc
Liz Lane	2/1/19	Postdoc
Enzo Mameli	2/1/19	Postdoc
Joshua Li	5/1/19	Postdoc
Jun Xu	9/1/19	Postdoc
Yifang Liu	9/1/19	Postdoc
Sam Entwistle	9/1/19	Postdoc
Ying Liu	12/1/19	Postdoc