

BIOGRAPHICAL SKETCH

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NAME Chen, Xin	POSITION TITLE Assistant Professor		
eRA COMMONS USER NAME (credential, e.g., agency login) XIN.CHEN			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
University of Science & Technology, Hefei, China	B.S.	9/91 - 6/96	Molecular Biology
University of Texas at Austin, TX	Ph.D	9/96 - 12/01	Mol. Cell & Dev. Biology
Stanford University School of Medicine	Postdoc	4/02 - 12/07	Developmental Biology

A. Positions and Honors**Positions and Employment**

- 1998 – 1999 Teaching Assistant, Department of Zoology, Univ. of Texas at Austin
 1996 – 2001 Research Assistant, Molecular Cell and Developmental Biology, Univ. of Texas at Austin
 Advisor: Dr. Janice A. Fischer
 2002–2007 Postdoctoral fellow, Dept. of Developmental Biology, Stanford University School of Medicine
 Advisor: Dr. Margaret T. Fuller.
 2008-present Assistant Professor, Biology Department, The Johns Hopkins University

Other Experience and Professional Memberships

- 2001-present American Society of Genetics

Honors

- 1991 The Fourth Zhang Zhong-Zhi Technology Scholarship in honor of First Place in the National-wide College Entrance Examination in Anhui province, USTC, China
 1992 Excellent Student Fellowship, USTC, China
 1993 Guang Hua Educational Fund Fellowship, USTC, China
 1995 The Eighth Zhang Zhong-Zhi Technology Scholarship, USTC, China
 1996 – 1998 Molecular Biology Institute Fellowship for Predoctoral Studies, UT, Austin
 1998 Travel Funds from Department of Zoology, UT, Austin
 2000 Travel Funds from Center for Developmental Biology, UT, Austin
 2001 Dorothea Bennett Memorial Graduate Fellowship, UT, Austin
 2001 Professional Development Award from the Office of Graduate Studies, UT, Austin
 2002 Outstanding Dissertation award from Graduate School, University of Texas, Austin. One of the four awardees for academic years 2001 –2002, UT, Austin
 2003 Katherine McCormick Travel Fund, Stanford, CA
 2005 NIH NRSA Postdoctoral Fellowship, NICHD (declined)
 2005 – 2006 The Leukemia and Lymphoma Society Special Fellow, Stanford, CA
 2006 – 2010 The NIH Pathway to Independence (PI) Award (K99/R00)
 2008- 2011 The 49th Mallinckrodt Scholar
 2009- 2011 The Basil O'Connor Starter Scholar
 2009- 2014 The Packard Fellow
 2011- 2012 Dean's Award for Excellence in Scholarship, Zanvyl Krieger School of Arts and Sciences, Johns Hopkins University

B. Peer-reviewed Publications

1. **Chen, X.**, Overstreet, E., Wood, S. A. and Fischer, J. A. On the conservation of function of the *Drosophila* Fat facets deubiquitinating enzyme and Fam, its mouse homolog. *Dev. Genes Evol.* 210: 603- 610 (2000).
2. **Chen, X.***, Li, Q.* and Fischer, J. A. Genetic analysis of the *Drosophila* DNAprim gene: The function of the 60-kD primase subunit of DNA polymerase opposes the fat facets signaling pathway in the developing eye. *Genetics* 156: 1787-1795 (2000). (* indicating authors of equal contribution.)
3. **Chen, X.** and Fischer, J. A. In vivo structure/function analysis of the *Drosophila* fat facets deubiquitinating enzyme gene. *Genetics* 156: 1829-1836 (2000).
4. **Chen, X.** and Fischer, J. A. A P element transformation vector for high levels of gene expression in germline cells of the ovary and undifferentiated cells in the developing eye of *Drosophila*. *Plasmid* 47: 61-65 (2002).
5. **Chen, X.**, Zhang, B. and Fischer, J. A. A specific protein substrate for deubiquitinating enzyme: Liquid facets is the substrate of Fat facets. *Genes and Development* 16: 289-294 (2002). One of the cover stories.
6. Overstreet, E., **Chen, X.**, Wendland, B., and Fischer, J. A. Either part of a *Drosophila* Epsin protein, divided after the ENTH domain, functions in endocytosis of Delta in the developing eye. *Current Biology* 13: 854-860 (2003).
7. Hiller, M., **Chen, X.**, Pringle, M.J., Suchorolski, M., Sancak, Y., Viswanathan, S., Bolival, B., Marino, S. and Fuller, M.T. Testis-specific TAF homologs collaborate to control a tissue-specific transcription program. *Development*, 131: 5297-5308 (2004).
8. **Chen, X.**, Hiller, M., Sancak, Y. and Fuller, M. T. Tissue specific TAFs counteract Polycomb to turn on terminal differentiation. *Science* 310: 869- 872 (2005). Comment in *BioEssays* 28:330-334 (2006), by Ringrose, L.
9. Krishnamoorthy, T., **Chen, X.**, Govin, J., Cheung, W.L., Dorsey, J., Schindler, K., Winter, E., Allis, C. D., Khochbin, S., Fuller, M. T., and Berger, S. L. Phosphorylation of histone H4 Ser1 regulates sporulation in yeast and is conserved in fly and mouse spermatogenesis. *Genes and Development*, 20: 2580–2592 (2006). PMID: PMC1578680. One of the cover stories. Comment in *Genes and Development* 20: 2487–2491(2006), by Wendt K.D. and Shilatifard A.
10. **Chen, X.** Stem cells- what can we learn from flies? Invited review for *Fly*. *FLY* 2-1: 19- 28 (2008).
11. Gan, Q*, Chepelev, I*, Wei, G, Tarayrah, L, Cui, K, Zhao, K and **Chen, X.** (2010) Dynamic regulation of alternative splicing and chromatin structure in *Drosophila* gonads revealed by RNA-seq. *Cell Research* 20(7): 763-783 (2010). PMID: PMC2919574 (* equal contribution).
12. Gan, Q, Schones, DE, Eun, S, Wei, G, Cui, K, Zhao, K and **Chen, X.** (2010) Monovalent and unpoised status of most genes in undifferentiated cell-enriched *Drosophila* testis. *Genome Biology* 11(4):R42 (2010). PMID: PMC2884545.
13. Kracklauer, M.P., Wiora, H.M., Deery, W.J., **Chen, X.**, Bolival, B., Romanowicz, D., Simonette, R.A., Fuller, M.T., Fischer, J.A. and Beckingham, K.M. (2010) The *Drosophila* SUN protein Spag4 cooperates with the coiled-coil protein Turi Gagarin to maintain association of the basal body and spermatid nucleus. *Journal of Cell Science* 123 (16): 2763- 2772. PMID: PMC2915878.

14. Eun, S*, Gan, Q* and **Chen, X.** (2010) Epigenetic regulation of germ cell differentiation. *Current Opinion in Cell Biology* 22, 737-743. PMID: PMC2993805 (* equal contribution).

15. **Chen, X.***, Lu, C., Morillo, J., Eun, S. and Fuller, M.T.* (2011) Sequential changes at differentiation gene promoters as they become active in a stem cell lineage. *Development* 138: 2441-2450 (* co-corresponding authors) PMID: PMC3100706.

16. Tran, V., Gan, Q. and **Chen, X.** (2012) Chromatin immunoprecipitation (ChIP) using *Drosophila* tissue. *Journal of Visualized Experiments (JoVE)*, in press. PMID: in progress.

17. Chepelev, I. and **Chen, X.** (2012) Switching splicing pattern during stem cell differentiation. Invited review to *Frontiers in Biology*, in press. PMID: in progress.

D. Research Support

Ongoing Research Support

Packard Fellow, Chen (PI) 10/15/09- 10/14/14

The David and Lucile Packard Foundation

Single-cell analyses of gene expression and chromatin structure in programming germline stem cells

The major goals of this project are to analyze both transcriptome and epigenome of male germ cell cysts at each single stage during spermatogenesis.

Role: Principal Investigator

1R21HD065089-01, Chen (PI) 4/1/10- 3/31/12

NIH, NICHD

Epigenetic inheritance in germline stem cell lineage

The major goals of this project are to utilize live image to investigate whether histones are partitioned in a symmetric or an asymmetric manner during germline stem cell division; and whether such a partition is coupled with DNA synthesis or not.

Role: Principal Investigator

The 49th Mallinckrodt Scholar, Chen (PI)

No cost extension from 8/1/11- 9/30/12

Edward Mallinckrodt, Jr. Foundation

Characterization of single-cell transcriptome in an adult stem cell lineage

The major goals of this project are to perform single-cell transcriptome assay and small non-coding RNAs profiling using isolated single germ cells.

Role: Principal Investigator

1R01HD065816-01A1, Chen (PI) 8/24/11 – 04/30/16

NIH, NICHD

Epigenetic Regulation of Germ Cell Differentiation from a Stem Cell Lineage

The major goals of this project are to investigate the upstream signaling that regulates stage-specific Polycomb gene expression; the roles of Polycomb complexes in regulating precursor germ cell proliferation vs. differentiation; and the dUTX histone demethylase in regulating germ cell differentiation.

Role: Principal Investigator

Pending Research Support

NIH, NIGMS 1R01GM101864-01, Chen (PI)

4/1/12- 3/31/17

Chromatin regulation of stem cell maintenance, proliferation and differentiation

The major goals of this project are to investigate the roles of several chromatin regulators in maintaining germ cell fate, in regulating the switch from germ cell proliferation to differentiation, and in regulating proper germ cell differentiation.

Role: Principal Investigator

March of Dime Research Grant #1-FY12-488, Chen (PI)

6/1/12- 5/31/15

Study histone demethylases in Drosophila male germline stem cell lineage

The major goals of this project are to use the Drosophila male germline adult stem cell lineage as a model system to study how two histone demethylases regulate stem cell maintenance and proper differentiation.

Role: Principal Investigator

Completed Research Support

American Federation for Aging Research Grant, Chen (PI)

7/1/09- 6/30/11

American Federation for Aging Research

Histone turnover during stem cell homeostasis and aging

Role: Principal Investigator

Basil O'Connor Starter Scholar Research Award, Chen (PI)

2/1/09- 1/31/11

March of Dime Foundation

Dissection of germ cell terminal differentiation program

Role: Principal Investigator

K99/R00 HD 055052, Chen (PI)

12/01/06 – 12/31/11

NIH, NICHD

Epigenetic regulation of germ cell differentiation from a stem cell lineage

Role: Principal Investigator