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**Education**

1999 Ph. D. in Biology, University of California at San Diego

1993 B. A., *magna cum laude* in Biochemistry, Harvard University

**Research and Professional Experience**

2013-present Member, Memorial Sloan Kettering Cancer Center, New York, NY

• Developmental Biology Program; Center for Stem Cell Biology

Professor, Weill Cornell Graduate School of Medical Sciences, New York, NY

• Programs in Biochemistry, Structural Biology, Cell Biology, Developmental Biology and Molecular Biology (BCMB); Tri-Institutional Computational Biomedicine; Neuroscience

2009-2013 Associate Member, Memorial Sloan Kettering Cancer Center, New York, NY

Associate Professor, Weill Cornell Graduate School of Medical Sciences,

Weill Cornell Medicine, NY

2005-2009 Assistant Member, Memorial Sloan Kettering Cancer Center, New York, NY

Assistant Professor, Weill Cornell Graduate School of Medical Sciences,

Weill Cornell Medicine, NY

1999-2005 Postdoctoral fellow, HHMI/Department of Molecular and Cell Biology

University of California at Berkeley, Berkeley, CA

1. "Regulation of the Notch pathway by ubiquitin ligases"

2. "Genomewide analysis of *Drosophila* microRNA function"

Dr. Gerald M. Rubin, postdoctoral advisor

1993-1999 Predoctoral fellow, Department of Biology

University of California at San Diego, La Jolla, CA

"Pattern formation during *Drosophila* sensory organ development"

Dr. James W. Posakony, graduate thesis advisor

1992-1993 Undergraduate thesis research, Department of Molecular Biology

Massachusetts General Hospital/Harvard Medical School, Boston, MA

"Spatial expression of *ceh-20*, a *C. elegans* PBX-class homeobox gene"

Dr. Gary Ruvkun, undergraduate thesis advisor

**Selected Awards and Fellowships**

2009 Louise and Allston Boyer Young Investigator Award for Basic Research

2008 New York Academy of Sciences-Blavatnik Award for Young Scientists, Finalist

2007-2009 Alfred W. Bressler Scholar

2007-2009 Kimmel Scholar of the Sidney Kimmel Foundation for Cancer Research

2006-2008 V Scholar of the V Foundation for Cancer Research

2005 Career Award in the Biomedical Sciences, Burroughs Wellcome Fund

2004-2006 Special Fellow of the Leukemia and Lymphoma Society

2000-2003 Fellow of the Damon Runyon Cancer Research Foundation

2000 Larry Sandler Memorial Award for *Drosophila* Research, Finalist

1993-1999 Fellow of the Lucille P. Markey Charitable Trust

1993 Phi Beta Kappa, Harvard College

1991 John Harvard Scholarship

1989 National Merit Scholarship

**Publications**

**Research papers**

1. Lee, S., Y.-C. Chen, A. Gillen, J. M. Taliaferro, B. Deplancke, the FCA Consortium, H. Li and **E. C. Lai** (2022). Diverse cell-specific patterns of alternative polyadenylation in *Drosophila*. ***Nature Communications,*** *in press*.
2. Shang R., D. A. Kretov, S. I. Adamson, T. Treiber, N. Treiber, J. Vedanayagam, J. H. Chuang, G. Meister, D. Cifuentes and **E. C. Lai** (2022). Regulated dicing of *pre-mir-144* involves reshaping of its terminal loop. ***Nucleic Acids Research*** **50**: 7637-7654. PMID: 35801921 PMCID: PMC9303283.
3. Samani, A., R. M. Hightower, A. L. Reid, K. G. English, M. A. Lopez, J. S. Doyle, M. J. Conklin, D. A. Schneider, M. M. Bamman, J. J. Widrick, D. K. Crossman, M. Xie, D. Jee, **E. C. Lai** and M. S. Alexander (2022). miR-486 is essential for muscle function and suppresses a dystrophic transcriptome. ***Life Science Alliance*** **5**: DOI: 10.26508/lsa.202101215. PMID: 35512829 PMCID: PMC9087951.
4. Zheng L.^, J. Liu^, L. Niu, M. Kamran, A.W.H. Yang, A. Jolma, Q. Dai, T. R. Hughes, D. J. Patel, L. Zhang, S. Prasanth, Y. Yu\*, A. Ren\*, and **E. C. Lai**\* (2022). Distinct structural bases for sequence-specific DNA binding by mammalian BEN domain proteins. ***Genes and Development*** **36**: 225-240. (^, co-first authors; \*, co-corresponding authors). PMID: 35144965 PMCID: PMC8887127.
5. Joseph, B., C. Scala, S. Kondo and **E. C. Lai** (2022). Molecular and genetic dissection of recursive splicing. ***Life Science Alliance*** **5**: e202101063, doi: 10.26508/lsa.202101063. PMID: 34759052 PMCID: PMC8605326.
6. Vedanayagam J., C.-J. Lin and **E. C. Lai** (2021). Rapid evolutionary dynamics of an expanding family of meiotic drive factors and their hpRNA suppressors. ***Nature Ecology & Evolution*** **5**: 1613-1623. (Featured in ***Nature Ecology & Evolution*** **5**: 1574-1575). PMID: 34862477 PMCID: PMC8665063.
7. Garaulet, D.L., A. Moro and **E. C. Lai** (2021). A double negative gene regulatory circuit mediates the virgin behavioral state. ***Cell Reports*** **36**: 109335. PMID: 34233178 PMCID: PMC8344067.
8. Joseph, B. and **E. C. Lai** (2021). The Exon Junction Complex and intron removal prevents resplicing of mRNA. ***PLoS Genetics*** **17**(5):e1009563. doi: 10.1371/journal.pgen.1009563. PMID: 34033644 PMCID: PMC8184009.
9. Lee, S., L. Wei, B. Zhang, R. Goering, S. Majumdar, J. Wen, J. M. Taliaferro, and **E. C. Lai** (2021). ELAV/Hu RNA binding proteins direct multiple neural alternative splicing programs. ***PLoS Genetics*** 17(4):e1009439. doi: 10.1371/journal.pgen.1009439. PMID: 33826609 PMCID: PMC8055025.
10. Bejarano, F., C.-H. Chang, K. Sun, J.W. Hagen, W.-M. Deng, and **E. C. Lai** (2021). A comprehensive *in vivo* screen for anti-apoptotic miRNAs indicates broad capacities for oncogenic synergy. ***Developmental Biology*** **475**: 10-20. PMID: 33662357 PMCID: PMC8107139.
11. Bejarano, F. and **E. C. Lai** (2021). ***Data in Brief*** **36**: 107037. doi: 10.1016/j.dib.2021.107037.
12. Kan, L., S. Ott, B. Joseph, E.S. Park., C. Dai, R. E. Kleiner, A. Claridge-Chang, and **E. C. Lai** (2021). A neural m6A/YTHDF pathway is required for learning and memory in *Drosophila*. ***Nature Communications*** **12**(1):1458. doi: 10.1038/s41467-021-21537-1. PMID: 33723258 PMCID: PMC7961012.
13. Garaulet, D.L., B. Zhang, L. Wei, E. Li, and **E. C. Lai** (2020). A post-transcriptional regulatory circuit specifies the virgin behavioral state. ***Developmental Cell*** **54**: 410-423. PMID: 32579967. PMCID: PMC7423760.
14. Wei, L., S. Lee, S. Majumdar, B. Zhang, P. Sanfilippo, B. Joseph, P. Miura, M. Soller and **E. C. Lai** (2020). Overlapping Activities of ELAV/Hu Family RNA Binding Proteins Specify the Extended Neuronal 3' UTR Landscape in Drosophila. ***Molecular Cell*** **80**: 140-155. PMID: 33007254 PMCID: PMC7546445.
15. Han, Q., G. Chen, J. Wang, D. Jee, W.-X. Li, **E. C. Lai** and S.-W. Ding (2020). Antiviral RNA interference in the presence and absence of the interferon system. ***mBio*** **11**: e03278-19 1-18.
16. Shang, R., S. Baek, K. Kim, B. Kim, V. N. Kim, and **E. C. Lai** (2020). Genomic clustering aids nuclear processing of suboptimal pri-miRNA loci. ***Molecular Cell*** **78**: 303-316. PMID: 32302542 PMCID: PMC754644.
17. Wang J., J. E. Lee, K. Riemondy, Y. Yu, S. M. Marquez, **E. C. Lai** and R. Yi. (2020) XPO5 promotes primary miRNA processing independently of RanGTP. ***Nature Communications*** **11**:1845 | https://doi.org/10.1038/s41467-020-15598. PMID: 32296071 PMCID: PMC7160132.
18. Yu, Y., C. Andreu-Agullo, B. F. Liu, L. Barboza, M. Toth, **E. C. Lai** (2020). Regulation of embryonic and adult neurogenesis by Ars2. ***Development*** **147**(2) pii: dev180018. PMID: 31969356. PMCID: PMC6983708.
19. Ueberschär, M., H. Wang, C. Zhang, S. Kondo, T. Aoki, P. Schedl, **E. C. Lai**\*, J. Wen\* and Q. Dai\* (2019). BEN-solo factors partition active chromatin to ensure proper gene activation in Drosophila. ***Nature Communications*** **10**(1): 5700. doi: 10.1038/s41467-019-13558-8. (\*, co-corresponding authors). PMID: 31836703. PMCID: PMC6911014.
20. Vedanayagam J., W. K. Chatila, B. A. Aksoy, S. Majumdar, A. J. Skanderup, E. Demir, N. Schultz, C. Sander and **E. C. Lai** (2019). Cancer-associated mutations in DICER1 RNase IIIa and IIIb domains exert similar effects on miRNA biogenesis. ***Nature Communications* 10:** 3682. doi: 10.1038/s41467-019-11610-1. PMID: 31417090. PMCID: PMC6695490
21. Mazaud D., B. Kottler, C. Gonçalves-Pimentel, S. Proelss, N. Tüchler, C. Deneubourg, Y. Yuasa, C. Diebold, H. Jungbluth, **E. C. Lai**, F. Hirth, A. Giangrande, M. Fanto, M (2019). Transcriptional regulation of the Glutamate/GABA/Glutamine cycle in adult glia controls motor activity and seizures in *Drosophila*. ***Journal of Neuroscience* 39**: 5269 –5283. PMID: 31064860. PMCID: PMC6607755.
22. Teijeiro, V., D. Yang, S. Majumdar, F. González, R. Rickert, C. Xu, R. Koche, N. Verma, **E. C. Lai** and D. Huangfu (2018). DICER1 is Essential for Self-renewal of Human Embryonic Stem Cells. ***Stem Cell Reports*** **11**: 616-625. PMID: 30146489. PMCID: PMC6135725.
23. Lin C.-J., F. Hu, R. Dubruille, J. Vedanayagam, J. Wen, P. Smibert, B. Loppin and **E. C. Lai** (2018). The hpRNA/RNAi pathway is essential to resolve intragenomic conflict to permit transmission of sons. ***Developmental Cell*** **46**: 316-326. (Featured in ***Developmental Cell*** **46**: 251-253). PMID: 30086302. PMCID: PMC6114144.
24. Joseph, B., S. Kondo and **E. C. Lai** (2018). Short cryptic exons mediate recursive splicing in *Drosophila*. ***Nature Structural and Molecular Biology*** **25**: 365-371. PMID: 29632374. PMCID: PMC6709686.
25. Duan, H., L. F. de Navas, F. Hu, K. Sun, Y. E. Mavromatakis, K. Viets, C. Zhou, J. Kavaler, R. Johnston, Jr., A. Tomlinson, and **E. C. Lai** (2018). The *mir-279/996* cluster represses receptor tyrosine kinase signaling to determine cell fates in the *Drosophila* eye. ***Development*** **145**: dev159053 doi: 10.1242/dev.159053. PMID: 29540498. PMCID: PMC5963866.
26. Jee, D., J.-S. Yang, S. M. Park, D.'J. Farmer, J. Wen, T. Chou, A. Chow, M. T. McManus, M. G. Kharas and **E. C. Lai** (2018). Dual strategies for Argonaute2-mediated biogenesis of erythroid miRNAs underlie conserved requirements for Slicing in mammals. ***Molecular Cell*** **69**: 265-278. PMID: 29351846. PMCID: PMC5824974.
27. Kavaler, J., H. Duan, R. Aradhya, L. F. de Navas, B. Joseph, B. Shklyar and **E. C. Lai** (2018). miRNA suppression of a Notch repressor directs non-neuronal fate in *Drosophila* mechanosensory organs. ***Journal of Cell Biology*** **217**: 571–583. PMID: 29196461. PMCID: PMC5800810. Featured in JCB Collection on Stem Cells and Development).
28. Mohammed, J., A. S. Flynt, A. M. Panzarino, M. Mondal, M. DeCruz, A. Siepel and **E. C. Lai** (2018). Deep experimental profiling of microRNA diversity, deployment, and evolution across the *Drosophila* genus. ***Genome Research*** **28**: 52-65. PMID: 29233922. PMCID: PMC5749182.
29. Sanfilippo P., J. Wen and **E. C. Lai** (2017). Landscape and evolution of tissue-specific alternative polyadenylation across *Drosophila* species. ***Genome Biology*** **18**: 229. doi: 10.1186/s13059-017-1358-0. PMID: 29191225. PMCID: PMC5707805.
30. Kondo S., J. Vedanayagam, J. Mohammed, S. Eizadshenass, L. Kan, N. Pang, R. Aradhya, A. Siepel, J. Steinhauer and **E. C. Lai** (2017). New genes often acquire male-specific functions but rarely become essential in *Drosophila*. ***Genes and Development*** **31**: 1841–1846. (Highlighted in ***Genes and Development* 31**: 1825-1826.) PMID: 29051389. PMCID: PMC5695085.
31. Yao, L., S. Wang, J. O. Westholm, Q. Dai, R. Matsuda, C. Hosono, S. Bray, **E. C. Lai** and C. Samakovlis (2017). Genome-wide identification of Grainy head targets in *Drosophila* reveals regulatory interactions with the POU-domain transcription factor, Vvl. ***Development*** **144**: 3145-3155. PMID:

28760809. PMCID: PMC5627367.

1. Sanfilippo, P., P. Miura, and **E. C. Lai** (2017). Genome-wide profiling of the 3' ends of polyadenylated RNAs. ***Methods*** **126**: 86-94. PMID: 28602807. PMCID: PMC5583017.
2. Kan, L., A. V. Grozhik, J. Vedanayagam, D. P. Patil, N. Pang, K.-S. Lim, Y.-C. Huang, B. Joseph, C.-J. Lin, V. Despic, J. Guo, D. Yan, S. Kondo, W.-M. Deng, P. C. Dedon, S. R. Jaffrey and **E. C. Lai** (2017). The m6A pathway facilitates sex determination in *Drosophila*. ***Nature Communications*** **8**:15737, 1-16. doi: 10.1038/ncomms15737. PMID: 28675155. PMCID: PMC5500889.
3. Lin, C.-J., J. Wen, F. Bejarano, F. Hu, D. Bortolamiol-Becet, L. Kan, P. Sanfilippo, S. Kondo and **E. C. Lai** (2017). Characterization of a TUTase/RNase complex required for Drosophila gametogenesis. ***RNA*** **23**: 284-296. PMID: 27974621. PMCID: PMC5311484.
4. Sanfilippo, P., P. Smibert, H. Duan and **E. C. Lai** (2016). Neural specificity of the RNA binding protein Elav is achieved by post-transcriptional repression in non-neural tissues. ***Development*** **143**: 4474-4485. PMID: 27802174. PMCID: PMC5201049.
5. Garaulet, D., K. Sun, W. Li, J. Wen, A. M. Panzarino, J. L. O'Neil, P. R. Hiesinger, Michael W. Young, and **E. C. Lai** (2016). miR-124 regulates diverse aspects of rhythmic behavior in *Drosophila*. ***Journal of Neuroscience*** **36**: 3414-3421. PMID: 27013671. PMCID: PMC4804003.
6. Lin, C.-J., P. Smibert, X. Zhao, J. F. Hu, J. Ramroop, S. M. Kellner, M. A. Benton, S. Govind, P. C. Dedon, R. Sternglanz and **E. C. Lai** (2015). An extensive allelic series of *Drosophila* *kae1* mutants reveals diverse and tissue-specific requirements for t6A biogenesis. ***RNA*** **12**: 2103-2118. PMID: 26516084. PMCID: PMC4647464.
7. Wen, J., E. Ladewig, S. Shenker, J. Mohammed and **E. C. Lai** (2015). Analysis of nearly one thousand mammalian mirtrons reveals novel features of Dicer substrates and miRNA evolution. ***PLoS Computational Biology*** **11** (9): e1004441. PMID: 26325366. PMCID: PMC4556696.
8. Bortolamiol-Becet, D., F. Hu, D. Jee, J. Wen, K. Okamura, C.-J. Lin, S. L. Ameres and **E. C. Lai** (2015). Selective suppression of the splicing-mediated microRNA pathway by the terminal uridyltransferase Tailor. ***Molecular Cell*** **59**: 217-228. (Highlighted in ***Molecular Cell*** **59**: 141-143). PMID: 26145174. PMCID: PMC4517475.
9. Sun, K., D. Jee, L. F. de Navas, H. Duan and **E. C. Lai** (2015). Multiple biological processes are mediated by functionally redundant activities of *Drosophila mir-279* and *mir-996****. PLoS Genetics*** **11**: e1005245. PMID: 26042831. PMCID: PMC4456407.
10. Fulga, T. A., E. McNeill, R. Binari, J. Yelick, A. Blanche, M. Booker, M. Schnall-Levin, Y. Zhao, T. DeLucca, F. Bejarano, Z. Han, **E. C. Lai**, D. Wall, N. Perrimon and D. V. Vactor (2015). Unbiased screening by conditional competitive inhibition reveals novel functions of conserved *Drosophila* miRNAs during development and adult behavior. ***Nature Communications*** **6:** 7279 (doi:10.1038/ncomms8279). PMID: 26081261. PMCID: PMC4471878.
11. Chak, L.-L., J. Mohammed, **E. C. Lai**, G. Tucker-Kellogg and K. Okamura (2015). A deeply conserved, non-canonical miRNA hosted by ribosomal DNA. ***RNA*** **3**: 375-384. PMID: 25605965. PMCID: PMC4338334.
12. Wen, J., H. Duan, F. Bejarano, K. Okamura, L. Fabian, J. A. Brill, D. Bortolamiol-Becet, R. Martin, J. G. Ruby and **E. C. Lai** (2015). Adaptive regulation of testis gene expression and control of male fertility by the *Drosophila* hairpin RNA pathway. ***Molecular Cell*** **57**: 165-178. PMID: 25544562. PMCID: PMC4289472.
13. Dai, Q., A. Ren, J. O. Westholm, H. Duan, D. J. Patel and **E. C. Lai** (2015). Common and distinct DNA-binding and regulatory activities of the BEN-solo transcription factor family. ***Genes and Development*** **29**: 48-62. PMID: 25561495. PMCID: PMC4281564.
14. Shenker, S., P. Miura, P. Sanfilippo and **E. C. Lai** (2015). IsoSCM: Improved and alternative UTR annotation using multiple change-point inference. ***RNA*** **21**: 14-27. PMID: 25406361. PMCID: PMC4274634.
15. Westholm, J. O., P. Miura, S. Olson, S. Shenker, B. Joseph, P. Sanfilippo, S. E. Celniker, B. R. Graveley and **E. C. Lai** (2014). Genomewide analysis of *Drosophila* circular RNAs reveals their structural and sequence properties and age-dependent neural accumulation. ***Cell Reports*** **9**: 1966-1980. PMID: 25544350. PMCID: PMC4279448.
16. Milton, C., F. Grusche, J. Degoutin, E. Yu, Q. Dai, **E. C. Lai**, and K. Harvey (2014). The Hippo pathway regulates hematopoiesis in *Drosophila melanogaster*. ***Current Biology*** **24**: 2673-2680. PMID: 25454587. PMCID: PMC4269548.
17. Fagegaltier, D., A. König, A. Gordon, **E. C. Lai**, T. R. Gingeras, G. J. Hannon and H. R. Shcherbata (2014). ­­Sexually dimorphic expression and functions of *Drosophila* miRNAs (2014). ***Genetics*** **198**: 647-668. PMID: 25081570. PMCID: PMC4196619.
18. Mohammed, J., A. Siepel and **E. C. Lai** (2014). Diverse modes of evolutionary emergence and flux of conserved microRNA clusters. ***RNA*** **20**: 1850-1863. PMID: 25332374. PMCID: PMC4238352.
19. Garaulet, D. L., M. Castellanos, F. Bejarano, P. Sanfilippo, D. M. Tyler, D. Allan, E. Sanchez-Herrero and **E. C. Lai** (2014). Homeotic function of *Drosophila* *Bithorax-Complex* miRNAs mediates fertility by restricting multiple Hox genes and TALE cofactors in the central nervous system. ***Developmental Cell*** **29**: 635-648. PMID: 24909902. PMCID: PMC4111139.
20. Mohammed, J., D. Bortolamiol-Becet, A. S. Flynt, I. Gronau, A. Siepel and **E. C. Lai** (2014). Adaptive evolution of testis-specific, recently-evolved, clustered miRNAs in *Drosophila*. ***RNA* 20:** 1195-1209. PMID: 24942624. PMCID: PMC4105746.
21. Gerstein, M.B., J. Rozowsky, K.-K. Yan, D. Wang, C. Cheng, J. B. Brown, C. A. Davis, L. hillier, C. Sisu, J. Li, B. Pei, A. Harmanci, M. Duff, S. Djebali, R. Alexander, Bu. Alver, R. Auerbach, K. Bell, P. Bickel, M. Boeck, N. Boley, B. Booth, L, Cherbas, P. Cherbas, C. Di, A. Dobin, J. Drenkow, B. Ewing, G. Fang, M. Fastuca, E. Feingold, A. Frankish, G. Gao, P. Good, P. Green, R. Guigo, A. Hammonds, J. Harrow, R. Hoskins, C. Howald, L. Hu, H. Huang, T. Hubbard, C. Huynh, S. Jha, D. Kasper, M. Kato, T. Kaufman, R. Kitchen, E. Ladewig, J. Lagard, **E. C. Lai**, J. Leng, Z. Lu, M. MacCoss, G. May, R. McWhirter, G. Merrihew, D. Miller, A. Mortazavi, R. Murad, B. Oliver, S. Olson, P. Park, M. Pazin, N. Perrimon, S. Pervouchine, V. Reinke, A. Reymond, G. Robinson, A. Samsanova. G. Saunders, F. Schlesinger, A. Sethi, F. Slack. W. Spencer, M. Stoiber, P. Strasbourger, A. Tanzer, O. Thompson, K. Wan, G. Wang, H. Wang, K. Watkins, J. Wen, K. Wen, C. Xue, L. Yang, K. Yip, C. Zaleski, Y. Zhang, H. Zheng, S. Brenner, B. R. Graveley, S. E. Celniker, T. Gingeras and R. Waterson (2014). Comparative analysis of the transcriptome across distant species. ***Nature* 512:** 445-448. (Highlighted in ***Nature*** **512:** 374-375). PMID: 25164755. PMCID: PMC4155737.
22. Brown, J. B., N. Boley, R. Eisman, G. May, M. Stoiber, M. O. Duff, B. Booth, S. Park, A. Suzuki, K. Wan, C. Yu, C. Zhang, J. Carlson, L. Cherbas, B. Eads, C. Miller, K. Mockaitis, J. Roberts, C. Davis, E. Frise, A. Hammonds, S. Olson, S. Shenker, D. Sturgill, J. Andrews, J. Wen, G. Robinson, J. Hernandez, P. J. Bickel, P. Carninci, P. Cherbas, T. Gingeras, R. Hoskins, T. C. Kaufman, **E. C. Lai**, B. Oliver, B. R. Graveley and S. E. Celniker (2014). Diversity and dynamics of the *Drosophila* transcriptome. ***Nature*** **512**: 393-399. (Highlighted in ***Nature*** **512**: 374-375). PMID: 24670639. PMCID: PMC4152413.
23. Wen, J., J. Mohammed, D. Bortolamiol-Becet, H. Tsai, N. Robine, J. O. Westholm, E. Ladewig, Q. Dai, K. Okamura, A. S. Flynt, D. Zhang, J. Andrews, L. Cherbas, T. C. Kaufman, P. Cherbas, A. Siepel, and **E. C. Lai** (2014). Diversity of miRNAs, siRNAs and piRNAs across 25 *Drosophila* cell lines (2014). ***Genome Research* 7:** 1236-1250. PMID: 24985917. PMCID: PMC4079977.
24. Yang, J.-S., P. Smibert, J. O. Westholm, D. Jee, T. Maurin and **E. C. Lai** (2014). Intertwined pathways for Argonaute-mediated microRNA biogenesis in *Drosophila*. ***Nucleic Acids Research*** **42**: 1987-2002. PMID: 24220090. PMCID: PMC3919586.
25. Aoki, T., D. Wolle, E. Noon, Q. Dai, **E. C. Lai** and P. Schedl (2014). Bi-functional cross-linking reagents efficiently capture protein-DNA complexes in *Drosophila* embryos. ***Fly*** **8:** 43-51. PMID: 24135698. PMCID: PMC3974894.
26. Wang, D., Z. Zhang, E. O'Loughlin, L. Wang, X. Fan, **E. C. Lai** and R. Yi (2013). MicroRNA-205 controls neonatal expansion of skin stem cells by modulating the PI (3)K Pathway**. *Nature Cell Biology* 15**: 1153-1163. PMID: 23974039. PMCID: PMC3789848.
27. Mohammed, J., A. S. Flynt, A. Siepel and **E. C. Lai** (2013). The impact of age, biogenesis, and genomic clustering on *Drosophila* microRNA evolution. ***RNA*** **19**:1295-308. PMID: 23882112. PMCID: PMC3753935.
28. Pancratov, R., F. Peng, M. Flaherty, P. Smibert, J.-S. Yang, E. Olson, C. Guha-Gilford, A. Kapoor, F.-X. Liang, **E. C. Lai** and R. DasGupta (2013). The microRNA-310/13 cluster antagonizes beta-catenin/armadillo function in the regulation of germ and somatic cell differentiation in the Drosophila male gonad. ***Development*** **140**: 2904-2916. PMID:23821034. PMCID: PMC3699279.
29. Jin, Z., A. S. Flynt and **E. C. Lai** (2013). *Drosophila piwi* mutants exhibit germline stem cell tumors that are sustained by elevated Dpp signaling. ***Current Biology*** **23**:1442-1448. PMID: 23891114. PMCID: PMC3740069.
30. Smibert, P., J.-S. Yang, G. Azzam, J.-L. Liu and **E. C. Lai** (2013). Homeostatic control of Argonaute stability by microRNAs. ***Nature Structural and Molecular Biology* 20**: 789-795. (Highlighted in ***Developmental Cell*****25**: 553-554). PMID: 23708604. PMCID: PMC3702675.
31. Okamura K., E. Ladewig, L. Zhou and **E. C. Lai** (2013). Regulatory RNAs are generated from select miRNA hairpin loops in flies and mammals. ***Genes and Development*** **27**: 778-792. PMID: 23535236. PMCID: PMC3639418.
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99. **Lai, E. C.** and J. W. Posakony (1998). Regulation of *Drosophila* neurogenesis by RNA: RNA duplexes? ***Cell*** **93**: 1103-1104. PMID: 9657143.
100. **Lai, E. C**. and J. W. Posakony (1997). The Bearded box, a novel 3' UTR sequence motif, mediates negative post-transcriptional regulation of *Bearded* and *Enhancer of split* Complex gene expression. ***Development*** **124**: 4847-4856. (January cover). PMID: 9428421.
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     **Review Articles, Book chapters and Opinion pieces**
102. Wei, L. and **Lai, E. C.** (2022). Regulation of the alternative neural transcriptome by ELAV/Hu RNA binding proteins. ***Frontiers in Genetics***, https://doi.org/10.3389/fgene.2022.848626.
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104. **E. C. Lai** (2015). Two decades of miRNA biology and counting. ***RNA*** **4**: 675-677. PMID: 25780186. PMCID: PMC4371328.
105. Garaulet, D. L. and **E. C. Lai** (2015). Hox miRNA regulation within the *Drosophila* Bithorax-complex: patterning behavior. ***Mechanisms of Development*** **138**: 151-159. PMID: 26311219. PMCID: PMC4673027.
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109. Sun, K. and **E. C. Lai** (2013). Adult-specific functions of animal microRNAs. ***Nature Reviews Genetics*** **14**: 535-548. PMID: 23817310. PMCID: PMC4136762.
110. Dai, Q., P. Smibert and **E. C. Lai** (2012). Exploiting *Drosophila* genetics to understand microRNA function and regulation. ***Current Topics in Genes and Development*** **99**: 201-235. PMID: 22365740. PMCID: PMC4505732.
111. Yang, J.-S. and **E. C. Lai** (2011). Alternative miRNA biogenesis pathways and the interpretation of core miRNA pathway mutants. ***Molecular Cell* 43:** 892-903. PMID: 21925378. PMCID: PMC3176435.
112. Westholm, J. O. and **E. C. Lai (**2011). mirtrons: microRNA biogenesis via splicing. ***Biochimie*** **93**: 1897-1904. PMID: 21712066. PMCID: PMC3185189.
113. Rissland, O. and **E. C. Lai** (2011). RNA silencing in Monterey. ***Development*** **138**: 3093-3102. PMID: 21750025.
114. Saj, A. and **E. C. Lai (**2011). Control of microRNA biogenesis and transcription by cell signaling pathways. ***Current Opinion in Genetics and Development*** **21**: 504-510. PMID: 21592778. PMCID: PMC3149747.
115. Flynt, A. S. and **E. C. Lai** (2011). RNAi in *Xenopus*: Look before you leap. ***Genes and Development*** **25**: 1105-1108. PMID: 21632820. PMCID: PMC3110948.
116. Axtell, M. J., J. O. Westholm and **E. C. Lai (**2011). Vive la différence: Biogenesis and evolution of microRNAs in plants and animals. ***Genome Biology*** **12**: 221.1-13. PMID: 21554756. PMCID: PMC3218855.
117. Yang, J.-S. and **E. C. Lai** (2010). Dicer-independent, Ago2-mediated microRNA biogenesis in vertebrates. ***Cell Cycle*** **9**: 4455-4460. PMID: 21088485. PMCID: PMC3048044.
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119. Okamura, K. and **E. C. Lai** (2010). A deathly DNase activity of Dicer. ***Developmental Cell*** **18**: 692-695. PMID: 20493803. PMCID: PMC4583219.
120. Okamura, K. and **E. C. Lai** (2009). Diversity and complexity of dicer-dependent small RNA networks in animals. ***Seikagaku***(*Journal of the Japanese Biochemical Society*) **81**: 904-909. PMID: 19928532. PMCID: PMC4515750.
121. Celniker, S. L. Dillon, M. B. Gerstein, K. C. Gunsalus, S. Henikoff, G. H. Karpen, M. Kellis, **E. C. Lai**, J. D. Lieb, D. M. MacAlpine, G. Micklem, F. Piano, M. Snyder, L. Stein, K. P. White and R. H. Waterston, for the modENCODE Consortium (2009). Unlocking the secrets of the genome. ***Nature*** **459**: 927-930. PMID: 19536255. PMCID: PMC2843545.
122. Flynt, A. S. and **E. C. Lai** (2008). Principles of microRNA-mediated regulation: shared themes amid diversity. ***Nature Reviews Genetics*** **9**: 831-842. (Featured Article of its issue). PMID: 18852696. PMCID: PMC2729318.
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124. Okamura, K., W.-J. Chung and **E. C. Lai** (2008). The long and short of inverted repeat genes in animals: microRNAs, mirtrons and hairpin RNAs. ***Cell Cycle*** **7**: 1-6. PMID: 18769156. PMCID: PMC2697033.
125. Okamura, K. and **E. C. Lai** (2008). Endogenous small interfering RNAs in animals. ***Nature Reviews Molecular Cell Biology* 9**: 673-678. PMID: 18719707. PMCID: PMC2729316.
126. Smibert, P. and **E. C. Lai** (2008). Lessons from microRNA mutants in worms, flies and mice. ***Cell Cycle*** **7**: 2500-2508. PMID: 18719388. PMCID: PMC2683976.
127. Hagen, J. W. and **E. C. Lai** (2008). microRNA control of cell-cell signaling during development and disease. ***Cell Cycle*** **7**: 2327-2332. PMID: 18677099. PMCID: PMC2697031.
128. Hagen, J. W. and **E. C. Lai** (2008). Seeing is believing: strategies for studying microRNA expression. In "**microRNAs: From Basic Science to Disease Biology**”, ed. K. Drappasani. Cambridge University Press, Cambridge, UK. ***Cell Cycle*** **7**: 2327-2332. PMID: 18677099. PMCID: PMC2697031.
129. Lau, N. and **E. C. Lai** (2005). Diverse roles for RNA in gene regulation. ***Genome Biology*** **6**: 315-319. PMID: 15833133. PMCID: PMC1088955.
130. **Lai, E. C.** (2005). miRNAs: Whys and wherefores of miRNA-mediated regulation. ***Current Biology*****15**: R458-R460. PMID:15964265.
131. **Lai, E. C.** (2004). Predicting and validating microRNA targets. ***Genome Biology*** **5**: 115-121. PMID:

15345038. PMCID: PMC522861.

1. **Lai, E. C.** and V. Orgogozo (2004). A hidden program in *Drosophila* peripheral neurogenesis revealed: fundamental principles underlying sensory organ diversity. ***Developmental Biology*** **269**: 1-17. PMID: 15081353.
2. **Lai, E. C.** (2004). Notch signaling: control of cell communication and cell fate.***Development*** **131**: 965-973. PMID: 14973298.
3. **Lai, E. C.** (2003). MicroRNAs: Runts of the genome assert themselves.***Current Biology*** **13**: R925-R936. PMID: 14654021.
4. **Lai, E. C.** (2003). Lipid rafts make for slippery platforms. ***Journal of Cell Biology* 162**: 365-370. PMID: 12885764. PMCID: PMC2172705.
5. **Lai, E. C.** (2003). RNA sensors and riboswitches: self-regulating messages. ***Current Biology*** **13**: R285-R291. PMID: 12676109.
6. **Lai, E. C.** (2002). Developmental signaling: shrimp and strawberries help flies make cones. ***Current Biology*** **12**: R722-R724. PMID: 12419199.
7. **Lai, E. C.** (2002). Keeping a good pathway down: Transcriptional repression of Notch pathway target genes by CSL proteins. ***EMBO Reports*** **3**: 840-845. (Cover). PMID: 12223465. PMCID: PMC108422
8. **Lai, E. C.** (2002). Notch cleavage: Nicastrin helps Presenilin make the final cut. ***Current Biology*** **12**: R200-R202. PMID: 11909545.
9. **Lai, E. C.** (2002). Protein degradation: Four E3s for the Notch pathway. ***Current Biology*** **12**: R74-R78. PMID: 11818085.

**Selected Oral Presentations at Symposia**

2005

***Small but powerful: The regulatory roles of non-coding RNAs*** (September 2005) Villars, Switzerland.

2006

***Keystone Symposium***: ***RNAi and Related Pathways*** (January 2006) Vancouver, Canada.

***The Genome Conference*** (February 2006) Lorne, Australia.

***47th Annual Drosophila Research Conference*** (March-April 2006) Houston, TX

***15th International Workshop on the Molecular and Developmental Biology of Drosophila*** (June 2006) Crete, Greece

***11th Annual SCBA International Symposium*** (July 2006) San Francisco, CA

2007

***48th Annual Drosophila Research Conference*** (March 2007) Philadelphia, PA.

***Keystone Symposium***: ***MicroRNAs and siRNAs: Biological Functions and Mechanisms*** (January 2007) Keystone, CO.

***Society of Developmental Biology, Northeast Regional Meeting*** (April 2007) Woods Hole, MA.

***2nd MicroSymposium on Small RNAs*** (May 2007) Vienna, Austria.

***Small RNAs in Development, Immunology and Cancer*** (October 2007) New York Academy of Sciences.

***Expanding the Genetic toolkit for Drosophila*** (October 2007) Janelia Farm, VA.

2008

***RNAi, MiRNA, and Non-Coding RNA, Keystone Symposium*** (March 2008), British Columbia, Canada

***49th Annual Drosophila Research Conference*** (April 2008), San Diego, CA. modENCODE workshop.

***Small RNAs: Biology and Technology*** (June 2008) IRIC Montreal, QC, Canada.

***Computational Systems Biology 2008*** (August 2008) Stanford, CA.

***9th International Congress on Cell Biology*** (October 2008) Seoul, Korea.

***International Symposium on Molecular Biology: RNA & Diseases*** (October 2008) Yongin, Korea.

2009

***Keystone Symposium***: ***The Biology of RNA Silencing*** (April 2009) Victoria, Canada.

***50th Annual Drosophila Research Conference*** (April 2009) Chicago, IL. modENCODE workshop.

***Keystone Symposium***: ***MicroRNA and Cancer*** (June 2009), Keystone, CO.

***42nd Meeting of the Society for the Study of Reproduction*** (July 2009), Pittsburgh, PA.

***Non-coding RNA Species in Nervous System Development and Function***(November 2009), New York Academy of Sciences, NY. Symposium co-organizer and speaker.

***21st European Drosophila Research Conference*** (November 2009), Nice, France.

2010

***51th Annual Drosophila Research Conference*** (April 2010) Washington DC. modENCODE workshop.

***2nd Annual NYU RNAi Symposium*** (June 2010) New York, NY.

***17th International Workshop on the Molecular and Developmental Biology of Drosophila*** (June 2010), Crete, Greece.

***5th London Fly meeting*** (September 2010), London, England.

***8th Annual Symposium in Plant Biology*** (October 2010) Amherst, MA.

***Yale Symposium on RNA and Development*** (October 2010) New Haven, CT.

***IRCM Meeting on Systems Biology*** (October 2010) Montreal Canada.

2011

***Keystone Symposium****:* ***Mechanism and Biology of Silencing*** (March 2011) Monterey, CA.

***52nd Annual Drosophila Research Conference*** (April 2011) San Diego, CA. (Plenary speaker).

***The Cellular Functions of RNA Nucleases*** (November 2011). Symposium co-organizer and speaker.

New York Academy of Sciences, NY.

***44nd Annual Meeting of the American Society of Nephrology*** (November 2011) Philadelphia PA.

2012

***microRNA 2012: International Symposium*** (March 2012) São Paulo, Brazil.

***Fondation des Treilles: Small silencing RNA Biology and Mechanism*** (April 2012) Tourtour, France.

***7th Microsymposium on Small RNAs*** (May 2012) Basel, Switzerland.

***18th International Workshop on the Molecular and Developmental Biology of Drosophila*** (June 2012), Crete, Greece.

***2012 Janssen Award for Biomedical Research Symposium*** (Sept 2012) New York Academy of Sciences, NY.

***13th Annual Riboclub meeting*** (Sept 2012) Sherbooke, Quebec Canada.

2013

***7th International Conference on Structural Biology and Functional Genomics***(December 2013) National University of Singapore, Singapore.

2014

***13th Annual McGill Barbados Workshops on Systems Biology*** (January 2014). Barbados.

***IMP-IMBA-BI Meeting on "microRNAs in Human Disease"*** (January 2014). Vienna Austria.

***Keystone Symposium: RNA silencing*** (January 2014). Seattle, WA

***9th Microsymposium on Small RNAs*** (May 2014) Vienna, Austria.

***19th International Workshop on the Molecular and Developmental Biology of Drosophila*** (June 2014), Crete, Greece.

2015

***Society of Developmental Biology, Northeast Regional Meeting*** (April 2015) Woods Hole, MA.

***10th Microsymposium on Small RNAs*** (May 2015) Vienna, Austria.

***Cell Press LabLinks symposium: RNA and the Nervous System*** (July 2015) New York, NY

2016

***EMBO Workshop Multiple functions of piRNAs and PIWI proteins*** (April 2016)Montpellier, France

***20th International Workshop on the Molecular and Developmental Biology of Drosophila*** (June 2016), Crete, Greece.

***Society for Developmental Biology 75th Annual Meeting*** (August 2016) Boston, MA

***39th Annual Meeting of The Molecular Biology Society of Japan*** (November 2016) Yokohama, Japan

2017

***Emerging roles of non-coding RNAs in nervous system development, plasticity and disease*** (June 2017) Marburg, Germany

2018

***CSHL Regulatory & Non-Coding RNAs*** (May 2018) CSHL, New York

***13th Microsymposium on Small RNAs*** (May 2018) Vienna, Austria

***21th International Workshop on the Molecular and Developmental Biology of Drosophila*** (June 2018), Crete, Greece

***ELAVENICE workshop on Elav proteins*** (September 2018), Venice, Italy

2019

***2nd Asian Pacific Drosophila Neuroscience Conference*** (January 2019) Taipei, Taiwan

***Keystone Symposia on Small Regulatory RNAs*** (March 2019) Daejeon, Korea

***Brandeis Genetics Training Grant Symposium*** (October 2019) Boston, MA

2020

***CSHL Regulatory & Non-coding RNAs*** (May 2020). Virtual conference.

2021

***CSHL Eukaryotic mRNA Processing*** (August 2021). Virtual conference.

2022

***CSHL Regulatory & Non-coding RNAs*** (May 2022) CSHL, New York  
***23rd International Workshop on the Molecular and Developmental Biology of Drosophila*** (June 2022), Crete, Greece

**Invited Lectures**

2006 Fox Chase Cancer Center, Philadelphia PA

New York Academy of Sciences, New York City NY

Skirball Institute, New York City NY

University of Vermont, Burlington VA

2007 University of Maryland Biotechnology Institute, College Park MD

Johns Hopkins University, Baltimore MD

Yale University, New Haven CT

Oregon State University, Corvallis OR

University of Oregon, Eugene OR

2008 University of Texas at Southwestern Medical School, Dallas TX

Emory University, Atlanta GA

Mount Sinai School of Medicine, New York City NY

New York University, New York City NY

University of Washington, Seattle WA

Seoul National University, Seoul Korea

Korea Advanced Institute of Science and Technology, Daejon Korea

Duke University, Durham NC

2009 Purdue University, West Lafayette IN

Indiana University, Bloomington IN

University of California, Berkeley CA

Columbia University Medical Center, New York City, NY

University of Illinois, Chicago IL

[Institut de Biologie Moléculaire et Cellulaire](http://www-ibmc.u-strasbg.fr/), Strasbourg France

Institut de Génétique et de Biologie Moléculaire et Cellulaire, Illkirch France

2010 Colby College, Waterville ME

Florida State University, Tallahassee FL

University of Colorado, Boulder CO

Hunter College, City University of New York NY

The Waksman Institute, Rutgers, The State University of New Jersey, Piscataway, NJ

University of Texas Southwestern Medical School, Dallas TX

2011 Jefferson Medical College, Thomas Jefferson University, Philadephia PA

The City College of New York, NY

Sanford | Burnham Medical Research Institute, San Diego CA

Max Planck Institute of Molecular Cell Biology and Genetics, Dresden Germany

2012 University of Colorado Anschutz Medical Campus, Aurora, CO

McGill University Centre for Research in Neuroscience, Montreal Canada

Boston University School of Medicine, Genome Science Institute, Boston MA

2013 MRC Centre for Developmental Neurobiology, King's College, London England

2014 University of Texas Health Science Center, San Antonio TX

Stockholm University, Sweden

2015 Rutgers New Jersey Medical School, Newark NJ

University of Nevada, Reno NV

Brandeis University, Waltham MA

National Institute of Diabetes and Digestive and Kidney Diseases, NIH Bethesda MD

2016 Michigan Technological University, Houghton MI

University of Tokyo, Japan

2017 St. Johns University, New York City NY

University of Wisconsin, Madison WI

Temasek Life Sciences Laboratory, Singapore

Cornell University, Ithaca NY

Institute of Molecular Biology, Mainz Germany

New England Biolabs, Ipswich MA

2018 Buck Institute, Novato CA

National Institutes of Health (NIH-NIDDK), Washington DC

2019 Chang Gung University, Taiwan

University of Illinois at Urbana-Champaign, Champaign IL

University of California, San Francisco CA

2020 University of Florida, Tallahassee FL

2021 Institute of Molecular Pathology, Vienna BioCenter, Austria (virtual)

University of Pennsylvania, PA (virtual)

2022 MD Anderson Cancer Center, Houston TX (virtual)

University of Southern Mississippi, Hattiesburg MS

Syracuse University, Syracuse NY

University of California at Riverside, Riverside CA

The Waksman Institute, Rutgers University, The State University of New Jersey, Piscataway, NJ

University of California at Santa Barbara, Santa Barbara CA  
 University of Colorado Anschutz Medical Campus, Aurora CO

Colorado State University, Fort Collins CO

**Academic Service**

regular reviewer for: *Cell, Science, Nature, Nature Genetics, Nature Structural Molecular Biology, Nature Reviews Molecular Biology, Nature Protocols, Nature Communications, eLIFE, Developmental Cell, Molecular Cell, Cell Host Microbe, Current Biology, Genes & Development, Development, RNA, Developmental Biology, EMBO Journal, Molecular and Cellular Biology, PNAS, Genome Research, Genome Biology, PLoS Biology, PLoS Genetics, PLoS Computational Biology, Genetics*, *G3, etc.*

2006 **NIH** **NIMH** special emphasis panel study section, *ad hoc* member

2007 **NIH** **GCAT** study section, *ad hoc* member

2010 **NSF** Kansas EPSCoR, *ad hoc* reviewer

2013 **FWF-Austrian Science Fund**, "RNA Biology" Doctoral Program, external review panel

2016 **NSF** *ad hoc* reviewer

2017 **Human Frontiers Science Program**, Career Development Awards, *ad hoc* reviewer

2017-19 **NIH MNG** study section, *ad hoc* member (2 times/year)

2018 **NIH NIGMS-MIRA** grants (ZRG1-CB-J55), *ad hoc* reviewer

2018 **Boehringer Ingelheim Fonds**, Foundation for Basic Research in Medicine, *ad hoc* reviewer

2019 **Swiss National Science Foundation**, *ad hoc* reviewer

2019-present **NIH MNG** study section, standing member (2-3 times/year)

2020 **European Research Council**, *ad hoc* reviewer

New York Academy of Sciences, RNAi and ncRNA Discussion Group, Committee co-chair (2005-2013)

Editorial Board, ***Fly*** 2006-present

Editorial Board, ***Genome Biology*** 2010-present

**Fellowships and Awards of group members**

Joshua Hagen, Ruth Kirschstein NRSA Fellowship (2007-2010)

Jr-Shiuan Yang, Frank Horsfall Lappin GSK Fellowship (2011)

Katsutomo Okamura, Japan Society for Promotion of Science (2006-2007)

Charles Revson Senior Fellow In Biomedical Science (2007-2009)

Japan Society for Promotion of Science (2010-2012)

Qi Dai, Swedish Research Council Postdoctoral Fellowship (2008-2010)

Zhigang Jin, National Cancer Institute of Canada-Terry Fox Foundation (2009-2010)

Celia Andreu-Agullo, EMBO Longterm Postdoctoral Fellowship (2009-2011)

NYSTEM fellowship (2011-2013)

Jakub Westholm, Swedish Research Council Postdoctoral Fellowship (2011)

Swedish Society for Medical Research Fellowship (2011-2012)

Pedro Miura, CIHR Post-doctoral Fellowship (2011-2013)

David Jee, NIH T32 Weill Cornell Training Grant in Molecular and Cellular Biology (2014-2016)

Yang Yu, NYSTEM fellowship (2015-2017)

Seungjae Lee, NYSTEM fellowship (2020-2022)

Jeffrey Vedanayagam, NIH K99/R00 Pathway to Independence Award (2021-2025)

**Selected current positions of former group members**

Katsutomo Okamura: Professor (with tenure), Nara Institute of Science and Technology, Japan

Alex Flynt: Professor (with tenure), Mississippi State University

Pedro Miura: Associate Professor (with tenure), University of Nevada, Reno

Qi Dai: Associate Professor (with tenure), University of Stockholm, Sweden

Jiayu Wen: Associate Professor (with tenure), Australian National University, Australia

Rajaguru Aradhya: Assistant Professor, Amrita Institute of Medical Sciences and Research, India

Yang Yu: Assistant Professor, Peking Union Medical College, China

Nicolas Robine: Director, Computational Biology, New York Genome Center

Peter Smibert: Vice President, Biology - 10X Genomics

Jakub Westholm: Staff Scientist, SciBioLife, Stockholm Sweden

Celia Andreu-Agullo: Principal Scientist, Rgenix

**Research Support**

**Ongoing Research Support:**

NIH-NINDS 1R01 NS083833-09 1/15/2014-12/31/2023

Mechanism and biology of widespread distal 3'UTR utilization in the CNS

Role: PI

NIH-NIGMS 5 R01 GM083300-15 9/1/2007-4/31/2025

Non-canonical miRNA biogenesis mechanisms in *Drosophila* and mammals

Role: PI

NIH-NICHD 1R01 HD108914-01 05/01/2022-03/31/2027

Essential roles for RNAi/hpRNAs to resolve intragenomic conflicts in the male germline

Role: PI

NIH-NICHD 1R01 HD095897-05 08/17/2018 – 05/31/2023

A miR-486/Dock3 signaling axis modulates dystrophin-deficient pathology

Role: subcontract (Dr. Matthew Alexander, PI)

Equinox Cycle for Survival 1/1/2021-12/31/2022

Functional analysis of Dicer hotspot mutations in cancer

Role: PI

**Completed Research Support**:

NIH-NHLBI 1R01 HL135564-05 04/10/2017 – 01/31/2021

Molecular and genetic analysis of novel Slicer-dependent miRNA pathways in blood

Role: lead PI/MPI

BSF 2015398 11/1/2016-10/31/2020

The role of microRNAs in the decline of germline stem cell functionality during aging

Role: co-PI (co-PI, Dr. Hila Toledano)

NIH-NINDS 5 R01 NS074037-05 9/1/2011-8/31/2016

BEN factors are conserved CSL co-repressors in Notch-mediated neural development

Role: PI

Functional Genomics Initiative, MSKCC 5/1/2016-7/30/2018

Molecular genetic analysis of cancer hotspot mutations in core miRNA machinery

Role: PI (co-PI, Dr. Danwei Huangfu)

Susan and Peter Solomon Divisional Genomics Program 1/1/2017-12/31-2017

Genomic analysis of Slicer-dependent miRNA pathways in blood and leukemia

NYSTEM N11G-083 3/1/2013-8/31/2016

Control of neural stem cell identity by the zinc finger protein Ars2

Role: PI

Functional Genomics Initiative, MSKCC 1/1/2015-12/13/15

Analysis of Dicer1 hotspot mutations in cancer

Role: PI

Burroughs Wellcome Fund, Career Award 12/01/04-08/30/15

Genomewide analysis of Drosophila microRNA function

Role: PI

NIH-NHGRI U01 HG004261 4/1/07-3/31/12

Annotation of the small RNA/microRNA component of the Drosophila genome

Role: PI

NIH-NHGRI U01 HG004261 ARRA supplement 9/1/09-08/30/11

NIH-NHGRI RC2 HG005639 9/1/09-08/30/12

A Data Analysis Center for integration of fly and worm modENCODE datasets

STARR Cancer Consortium I3-A139 9/1/09-8/30/11

Elucidation of microRNA control of cell signaling and apoptosis pathways

Role: PI

V Foundation for Cancer Research, V Scholar Grant 12/1/06-11/30/08

Genetic identification of cancer-relevant miRNA activities and novel miRNA pathway components

Sidney Kimmel Foundation for Cancer Research 7/1/07-5/30/09

Functional analysis of microRNA activity in Drosophila cancer models

Leukemia and Lymphoma Society, Special Fellowship 07/01/04-06/30/07

Genomewide analyses of microRNA function in Drosophila