

# Evgeny Kvon

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## EDUCATION

- 03/2009 – 01/2013 **Ph.D. in Molecular Biology**, University of Vienna, Vienna, Austria  
*Thesis title: From DNA sequence to expression: dissecting the regulatory potential of the Drosophila genome*
- 07/2003 – 07/2008 **M.Sc. in Biology**, Novosibirsk State University (NSU), Novosibirsk, Russia

## POSITIONS

- 04/2020 – present **Assistant Professor**, University of California, Irvine CA, USA  
Department of Developmental and Cell Biology
- 09/2017 – 03/2020 **Project Scientist**, Lawrence Berkeley National Lab, Berkeley CA, USA  
Laboratory of [Axel Visel](#), [Diane Dickel](#) and [Len Pennacchio](#)
- 03/2015 – 08/2017 **HHMI Fellow of the Helen Hay Whitney Foundation**,  
Lawrence Berkeley National Lab, Berkeley, CA  
Laboratory of [Axel Visel](#), [Diane Dickel](#) and [Len Pennacchio](#)
- 05/2014 – 02/2015 **Postdoctoral Fellow**, Lawrence Berkeley National Lab, Berkeley CA, USA  
Laboratory of [Axel Visel](#), [Diane Dickel](#) and [Len Pennacchio](#)
- 10/2008 – 03/2014 **Ph.D. Student**, Institute of Molecular Pathology (IMP), Vienna, Austria  
Laboratory of [Alexander Stark](#)

## HONORS, AWARDS & FELLOWSHIPS

- 2017 [NIH Pathway to Independence Award \(K99/R00\)](#)  
*National Institute of Health (NIH/NHGRI)*
- 2015 [HHWF Postdoctoral Fellowship](#) funded by the [Howard Hughes Medical Institute](#)  
*Helen Hay Whitney Foundation*
- 2015 [HFSP Long-Term Postdoctoral Fellowship](#) (gratefully declined)  
*Human Frontier Science Program Organization*
- 2013 [VBC Ph.D. Award](#) (for the most successful Ph.D. theses)  
*Vienna Biocenter*

\* equal contribution

† corresponding author

1. Snetkova, V., Ypsilanti, A.R., Mannion, B.J., Plajzer-Frick, I., Novak, C.S., Harrington, A.N., Pham, Q., Kato, M., **Kvon, E.Z.**, Zhu, Y., Shi, M., Hunter, R.D., Godoy, J., Meky, E., Akiyama, J.A., Afzal, V., Tran, S., Rubenstein, J.L.R., Visel A., Pennacchio, L.A., Dickel, D.E. (2021). Ultraconserved Enhancer Function Does Not Require Perfect Sequence Conservation. ***Nature Genetics***, 53:521–8. [PMID: 33782603](#)
2. **Kvon, E.Z.**†, Waymack, R., Elabd, M.G., Wunderlich, Z.† (2021). Enhancer redundancy in development and disease. ***Nature Reviews Genetics***, 22:324–36. [PMID: 33442000](#)
3. Orr, B.O., Hauswirth, A.G., Celona, B., Fetter, R.D., Zunino, G., **Kvon, E.Z.**, Zhu, Y., Pennacchio, L.A., Black, B.L., and Davis, G.W. (2020). Presynaptic Homeostasis Opposes Disease Progression in Mouse Models of ALS-Like Degeneration: Evidence for Homeostatic Neuroprotection. ***Neuron***, 107:95–111.e6. [PMID: 32380032](#)
4. **Kvon, E.Z.**, Zhu, Y., Novak, C.S., Plajzer-Frick, I., Kelman, G., Kato, M., Garvin, T.H., Pham, Q., Harrington, A.N., Hunter, R.D., Godoy, J., Meky, E., Akiyama, J.A., Afzal, V., Tran, S., Escande, F., Gilbert-Dussardier, B., Jean-Marçais, N., Hudaiberdiev, S., Ovcharenko, I., Dobbs, M.B., Gurnett, C.A., Manouvrier-Hanu, S., Petit, F., Visel A., Dickel, D.E., Pennacchio, L.A. (2020). Comprehensive *In Vivo* Interrogation Reveals Phenotypic Impact of Human Enhancer Variants. ***Cell***, 180(6):1262–1271. [PMID: 32169219](#)

Featured in: 1) [Deciphering the impact of enhancer variation. \*Nature Reviews Genetics\* \(2020\)](#)

5. Li, S., **Kvon, E.Z.**, Visel, A., Pennacchio, L.A. & Ovcharenko, I. (2019). Stable enhancers are active in development, and fragile enhancers are associated with evolutionary adaptation. ***Genome Biology***, 20, 1178. [PMID: 31307522](#)
6. **Kvon, E.Z.**, Kamneva, O., Melo, U.S., Barozzi, I., Osterwalder, M., Mannion, B.J., Tissières, V., Pickle, C., Plajzer-Frick, I., Lee, E.A., Kato, M., Garvin, T.H., Akiyama, J.A., Afzal, V., Lopez-Rios, J., Rubin, E.M., Dickel, D.E., Pennacchio, L.A., Visel A. (2016). Progressive Loss of Function in a Limb Enhancer During Snake Evolution. ***Cell***, 167(3):633-642. [PMID: 27768887](#)

Featured in: 1) [Unwinding Limb Development. \*Cell\* \(2016\)](#)

2) [Evolution: How snakes lost their legs. \*Nature\* \(2016\)](#)

3) [Tiny DNA tweaks made snakes legless. \*Science\* \(2016\)](#)

4) [Sonic snakes and regulation of limb formation. \*Nature Reviews Genetics\* \(2016\)](#)

5) [Evolution: Enhanced Footing for Snake Limb Development. \*Current Biology\* \(2016\)](#)

6) News: [Scientific American](#), [The Atlantic](#), [The Washington Post](#), [CBS News](#), [Der Spiegel](#)

7. Rickels, R., Hu, D., Collings, C., Woodfin, A., Piunti, A., Mohan, M., Herz, H., **Kvon, E.Z.**, Shilatifard, A. (2016). A Trx/MLL/COMPASS-dependent chromatin modification marking polycomb response elements. ***Molecular Cell***, 63 (2):318-328. [PMID: 27447986](#)
8. **Kvon, E.Z.**† (2015). Using transgenic reporter assays to functionally characterize enhancers in animals. ***Genomics***, 106(3):185-92. [PMID: 26072435](#)

9. **Kvon, E.Z.**, Kazmar, T., Stampfel, G., Yáñez-Cuna, J.O., Pagani M., Schernhuber K., Dickson, B.J., Stark, A. (2014). Genome-scale functional characterization of *Drosophila* developmental enhancers *in vivo*. **Nature**, 512(7512):91-5. [PMID: 24896182](#)  
  
Featured in: 1) Gene expression: An atlas of fruit fly enhancer activity. *Nature Methods* (2014)
10. Yáñez-Cuna, J.O.\*, **Kvon, E.Z.\***, Stark, A. (2013). Deciphering the transcriptional *cis*-regulatory code. **Trends in Genetics**, 29(1):11-22. [PMID: 23102583](#)
11. Kazmar, T., **Kvon, E.Z.**, Stark, A., Lampert, C. (2013). *Drosophila* embryo stage annotation using label propagation. **ICCV 2013**, Springer. 1089–1096. [Link](#)
12. Yáñez-Cuna, J.O., Dinh, H.Q.\*, **Kvon, E.Z.\***, Shlyueva, D.\*, Stark, A. (2012). Uncovering *cis*-regulatory sequence requirements for context specific transcription factor binding. **Genome Research**, 22(10):2018-2030. [PMID: 22534400](#)
13. **Kvon, E.Z.\***, Stampfel, G.\*, Yáñez-Cuna, J.O., Dickson, B.J., Stark, A. (2012). HOT regions function as patterned developmental enhancers and have a distinct *cis*-regulatory signature. **Genes & Development**, 26(9):908-13. [PMID: 22499593](#)  
  
Featured in: 1) HOT DNAs: a novel class of developmental enhancers. *Genes & Development* (2012)  
2) Faculty of 1000 Biology
14. **Kvon, E.Z.**, Demakov, S.A., Zhimulev, I.F. (2011). [Chromatin decompaction in the interbands of *Drosophila* polytene chromosomes does not correlate with high transcription level]. **Genetika**, 47(6):765-73. [PMID: 21866857](#)
15. Belyakin, S.N., Babenko, V.N., Maksimov, D.A., Shloma, V.V., **Kvon, E. Z.**, Belyaeva, E. S., Zhimulev, I. F. (2010). Gene density profile reveals the marking of late replicated domains in the *Drosophila melanogaster* genome. **Chromosoma**, 119(6):589-600. [PMID: 20602235](#)
16. Demakov, S.A., Andreenkov, O.V., Berkaeva, M.B., Vatolina, T.I., Volkova, E.I., **Kvon, E.Z.**, Semeshin, V.F., and Zhimulev, I.F. (2010). [Functional organization of interbands in *Drosophila* polytene chromosomes]. **Genetika**, 46(10):1421-3. [PMID: 21254569](#)