Paul Lasko--Biosketch

I am a senior scientist whose independent research career began as an Assistant Professor at McGill in 1990. I received my A.B. degree in Biochemistry from Harvard, my PhD in Biology from MIT under the supervision of Mary Lou Pardue, and my postdoctoral training was in Cambridge with Michael Ashburner. At McGill I was promoted to Associate Professor in 1996, to Professor in 1999, and I served as Department Chair from 2000-2010. From 2010-2018 I was Scientific Director of Institute of Genetics of the Canadian institutes of Health Research. In 2019-2020 I was a Visiting Professor at Radboud University Medical Center in the Netherlands, thanks to support from the Radboud University Excellence Program. I was awarded the Prix Armand-Frappier in 2014 from the Government of Québec for my contributions to research and research administration, and I was elected Fellow of the Royal Society of Canada in 2016. Since 2021 I have held the position of Distinguished James McGill Professor.

My research has mainly focused on post-transcriptional mechanisms of regulating gene expression. Regulation of translation, stability, and spatial localization of specific mRNAs are important means of targeting proteins to particular regions of the cell, especially in large or highly asymmetric cells such as oocytes and neurons. We use Drosophila to study how mRNAs are localized and rendered translationally active in one cellular region while being repressed in others. More recently, we have established collaborations with several clinical geneticists to use Drosophila to model rare cancers and other rare genetic diseases.

Selected recent publications

Shao, L., Fingerhut, J.M., Falk, B.L., Han, H., Maldonado, G., Qiao, Y., Lee, V., Hall, E., Chen, L., Polevoy, G., Hernández, G., **Lasko, P.**, and Brill, J. A. (2023) Eukaryotic translation initiation factor eIF4E-5 is required for spermiogenesis in *Drosophila melanogaster*. *Development* 150: dev200477. PMID 36695474.

Wyrwoll, M.J., Gaasbeek, C.M., Golubickaite, I., Stakaitis, R., Oud, M.S., Nagirnaja, L., Dion, C., Sindi, E. B., Leitch, H.G., Jayasena, C.N., Sironen, A., Rotte, N., Stallmeyer, B., Kliesch, S., Grangeiro, C.H.P., Araujo, T.F., **Lasko, P.**, Genetics of Male Infertility Initiative (GEMINI) Consortium, D'Hauwers, K., Smits, R.M., Ramos, L., Xavier, M.J., Conrad, D., Almstrup, K., Veltman, J.A., Tüttelmann, F., and van der Heijden, G.W. (2022) The piRNA-pathway factor FKBP6 is essential for spermatogenesis but dispensable for control of meiotic *LINE-1* expression. *American Journal of Human Genetics* 109: 1850-1866. PMID 36150389.

Stevens, S.J.C., Stumpel, C.T.R.M., Diderich, K., van Siegtenhorst, M. A., Abbott, M.-A., Manning, C., Balciuniene, J., Pyle, L.C., Leonard, J., Murrell, J.R., van de Putte, R., van Rooij, I.A.L.M., Hoischen, A., **Lasko, P.**, and Brunner, H.G. (2022) The broader phenotypic spectrum of congenital caudal abnormalities associated with mutations in the *Caudal Type Homeobox 2* gene. *Clin. Genet.* 101: 183-189. PMID 34671974.

Chaouch, A., Berlandi, J., Chen, C.C.L., Frey, F., Badini, S., Harutyunyan, A. S., Chen, X., Krug, B., Hébert, S., Jeibmann, A., Lu, C., Kleinman, C. L., Hasselblatt, M., **Lasko, P.**, Shirinian, M., and Jabado, N. (2021) Histone H3.3 K27M and K36M mutations de-repress transposable elements through perturbation of antagonistic chromatin marks. *Mol. Cell* 81: 4876-4890.e7. PMID 34739871.

Dold, A., Han. H., Liu, N., Hildebrandt, A., Beli, P., Brüggemann, M., Rücklé, C., Beli, P., Zarnack, K., König, J., Roignant, J.-Y., and **Lasko, P.** (2020) Makorin 1 controls embryonic patterning by alleviating Bruno-mediated repression of *oskar* translation. *PLoS Genet.* 16: e1008581. PMID 31978041.

Kong, J., Han, H., Bergalet, J., Bouvrette, L.-P. B., Hernández, G., Moon, N.-S., Vali, H., Lécuyer, E., and **Lasko. P.** (2019) *Drosophila* ribosomal protein S5b is essential for oogenesis and interacts with distinct RNAs. *Sci. Rep.* 9: 13779. PMID 31551467.

Lasko, P. (2017) mRNAs on the move after lunch. *Dev. Cell* 42: 439-440. PMID 28898674.

Lasko, P. (2017) Dueling RNA-binding proteins promote translational activation. *Nature Struct. Mol. Biol.* 24: 609-610. PMID 28771463.