

# Stanford

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## Lars Steinmetz

Dieter Schwarz Foundation Endowed Professor  
Genetics

### CONTACT INFORMATION

- **Alternate Contact**

Michelle Nguyen - Executive Assistant

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### Bio

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#### BIO

B.S. 1994-1997, Molecular Biophysics and Biochemistry, Yale University.

Ph.D. 1997-2001, Genetics, Stanford University. Advisor: Ronald W. Davis.

Postdoctoral research at Stanford Genome Technology Center 2002 and visiting group leader 2003-2013.

Group leader at European Molecular Biology Laboratory (EMBL), 2003-present.

Founding Joint Head (chair) of Genome Biology Unit and Senior Scientist, EMBL 2009-2013.

Co-founder, Sophia Genetics 2011.

ERC Advanced Investigator (twice), 2012-present.

Associate Head of Genome Biology Unit and Senior Scientist, EMBL 2013-2016.

Senior Scientist and Director of Life Science Alliance, EMBL 2016-present.

Professor of Genetics, Stanford University, 2013-present.

Co-Director of the Stanford Genome Technology Center, 2013-present.

#### ACADEMIC APPOINTMENTS

- Professor, Genetics
- Member, Bio-X
- Member, Cardiovascular Institute
- Faculty Affiliate, Institute for Human-Centered Artificial Intelligence (HAI)
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Wu Tsai Neurosciences Institute

#### ADMINISTRATIVE APPOINTMENTS

- Co-Director, Stanford Genome Technology Center, (2013- present)
- Senior Scientist and Director of Life Science Alliance, a Stanford-EMBL collaboration, European Molecular Biology Laboratory (EMBL), (2014- present)
- Director of Graduate Admissions, Department of Genetics, Stanford University, (2013- present)

## HONORS AND AWARDS

- Ira Herskowitz Award, Genetics Society of America (2016)
- Dr. V. Ramalingaswami Chair, Indian National Science Academy (2014-2015)
- EMBO Member, European Molecular Biology Organization (2013)
- Two times ERC Advanced Investigator, European Research Council (2012, 2017)
- Emmy Noether-Program Young Investigator, Deutsche Forschungsgemeinschaft (2004-2010)
- Howard Hughes Predoctoral Fellow, Howard Hughes Medical Institute (1998-2001)

## BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Advisory Editorial Board Member, Molecular Systems Biology (2014 - present)
- Associate Editor, Genetics (2014 - present)
- EMBO Member, European Molecular Biology Organization (2013 - present)
- Scientific Advisory Board Member, Saccharomyces Genome Database (SGD, [www.yeastgenome.org](http://www.yeastgenome.org)) (2013 - present)
- Associate Editor, G3: Genes | Genomes | Genetics (2011 - present)
- President, Scientific Advisory Board, Sophia Genetics (2011 - present)

## PROFESSIONAL EDUCATION

- Ph.D., Stanford University , Genetics (2001)
- Bachelor of Science, Yale University , Molecular Biophysics and Biochemistry (1997)

## LINKS

- Stanford Lab Website: <http://steinmetzlab.stanford.edu>
- EMBL Lab Website: <http://steinmetzlab.embl.de>
- Stanford Genome Technology Center: <http://med.stanford.edu/sgtc/>
- Stanford-EMBL Life Science Alliance: <http://lifesciencealliance.stanford.edu>
- Lars Steinmetz's Google Scholar Citations: <http://scholar.google.de/citations?user=eMs1ptMAAAAJ&hl=en>
- Lars Steinmetz's F1000 Recommendations: [http://f1000.com/prime/search/evaluations?query=steinmetz\\_lm&evaluations.queryField=author](http://f1000.com/prime/search/evaluations?query=steinmetz_lm&evaluations.queryField=author)

## Research & Scholarship

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### CURRENT RESEARCH AND SCHOLARLY INTERESTS

One of the most daunting challenges in medicine is the complex nature of most diseases (including cancer, diabetes, heart disease and some forms of rare disease) due to interactions between multiple genetic variants and environmental influences. Our research is directed at understanding such complex traits; to do so, we develop novel genomic approaches to investigate the molecular processes that link genotype to phenotype, identify the causal underlying factors, and quantify their contributions. We investigate variation at the level of the genome, transcriptome and proteome, which we integrate with higher-level phenotypes. We also use the resulting molecular networks to predict and evaluate intervention points that enable modulation of phenotype. In particular, our projects are in the following areas:

#### 1) Functions and mechanisms of gene regulation

We have developed several technologies to characterize and quantify pervasive transcription at the genome-wide level as well as its functional impact. In particular, we are interested in the function and regulation of non-coding RNAs, antisense transcription, and the molecular phenotypes that arise from transcriptome complexity.

#### 2) Systems genetics

We have also piloted new technologies to dissect the genetic basis of complex, multifactorial phenotypes. We are interested in studying how genetic variation is inherited through recombination, the consequences of genetic variation, learning to predict phenotype from genotype, and integrating multiple layers of molecular data in order to define intervention points that can be targeted to modulate phenotypes of interest.

### 3) Disease models

We have used multiple model systems, primarily yeast and human cells, to characterize the genetic and cellular systems affected in particular diseases and assess potential therapeutic strategies. We are studying diseases in patient-derived cells using systematic, followed by mechanistic approaches, to unravel mechanisms and discover novel treatments.

Notably, we place a strong emphasis on the development of new technologies, leveraging the Stanford Genome Technology Center's strengths in this area. Some engineering applications we aim to develop include novel biosensors for detection of minute quantities of biological material and single-cell approaches to investigate genome and transcriptome complexity. Through developing such technologies, we will work with the Center to reduce the cost and increase the accuracy and throughput of biomedical research and health care. Ultimately, we strive to develop approaches that will enable personalized, preventive medicine.

## Teaching

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### COURSES

#### 2022-23

- Biology and Applications of CRISPR/Cas9: Genome Editing and Epigenome Modifications: BIOS 268, GENE 268 (Spr)

#### 2021-22

- Biology and Applications of CRISPR/Cas9: Genome Editing and Epigenome Modifications: BIOS 268, GENE 268 (Spr)

### STANFORD ADVISEES

#### Postdoctoral Faculty Sponsor

Umberto Aiello, Matilde Bertolini, Chris Mathy, Jarod Rutledge, Marta Seczynska, Simon Sretenovic, Han Sun, Jie Wu, Mariëlle van Kooten

#### Doctoral Dissertation Advisor (AC)

Julia Bauman, Jon Bezney

### GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Genetics (Phd Program)

## Publications

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### PUBLICATIONS

- **Size-exclusion chromatography combined with DIA-MS enables deep proteome profiling of extracellular vesicles from melanoma plasma and serum.** *Cellular and molecular life sciences : CMLS*  
Lattmann, E., Rass, L., Tognetti, M., Gomez, J. M., Lapaire, V., Bruderer, R., Reiter, L., Feng, Y., Steinmetz, L. M., Levesque, M. P.  
2024; 81 (1): 90
- **Dissecting quantitative trait nucleotides by saturation genome editing.** *bioRxiv : the preprint server for biology*  
Roy, K. R., Smith, J. D., Li, S., Vonesch, S. C., Nguyen, M., Burnett, W. T., Orsley, K. M., Lee, C. S., Haber, J. E., St Onge, R. P., Steinmetz, L. M.  
2024
- **Genome-scale analysis of interactions between genetic perturbations and natural variation.** *bioRxiv : the preprint server for biology*  
Hale, J. J., Matsui, T., Goldstein, I., Mullis, M. N., Roy, K. R., Ville, C. N., Miller, D., Wang, C., Reynolds, T., Steinmetz, L. M., Levy, S. F., Ehrenreich, I. M.  
2024

- **Uterine injury during diestrus leads to placental and embryonic defects in future pregnancies in mice.** *Biology of reproduction*  
Zhang, E. T., Wells, K. L., Bergman, A. J., Ryan, E. E., Steinmetz, L. M., Baker, J. C.  
2024
- **An encyclopedia of enhancer-gene regulatory interactions in the human genome.** *bioRxiv: the preprint server for biology*  
Gschwind, A. R., Mualim, K. S., Karbalayghareh, A., Sheth, M. U., Dey, K. K., Jagoda, E., Nurtudinov, R. N., Xi, W., Tan, A. S., Jones, H., Ma, X. R., Yao, D., Nasser, et al  
2023
- **Consequences of a telomerase-related fitness defect and chromosome substitution technology in yeast synIX strains.** *Cell genomics*  
McCulloch, L. H., Sambasivam, V., Hughes, A. L., Annaluru, N., Ramalingam, S., Fanfani, V., Lobzaev, E., Mitchell, L. A., Cai, J., Jiang, H., LaCava, J., Taylor, M. S., Bishai, et al  
2023; 3 (11): 100419
- **Design, construction, and functional characterization of a tRNA neochromosome in yeast.** *Cell*  
Schindler, D., Walker, R. S., Jiang, S., Brooks, A. N., Wang, Y., Muller, C. A., Cockram, C., Luo, Y., Garcia, A., Schraivogel, D., Mozziconacci, J., Pena, N., Assari, et al  
2023
- **Debugging and consolidating multiple synthetic chromosomes reveals combinatorial genetic interactions.** *Cell*  
Zhao, Y., Coelho, C., Hughes, A. L., Lazar-Stefanita, L., Yang, S., Brooks, A. N., Walker, R. S., Zhang, W., Lauer, S., Hernandez, C., Cai, J., Mitchell, L. A., Agmon, et al  
2023
- **Identification and quantification of small exon-containing isoforms in long-read RNA sequencing data.** *Nucleic acids research*  
Liu, Z., Zhu, C., Steinmetz, L. M., Wei, W.  
2023
- **Gut barrier defects, intestinal immune hyperactivation and enhanced lipid catabolism drive lethality in NGLY1-deficient Drosophila.** *Nature communications*  
Pandey, A., Galeone, A., Han, S. Y., Story, B. A., Consonni, G., Mueller, W. F., Steinmetz, L. M., Vaccari, T., Jafar-Nejad, H.  
2023; 14 (1): 5667
- **Digital assay for rapid electronic quantification of clinical pathogens using DNA nanoballs.** *Science advances*  
Tayyab, M., Barrett, D., van Riel, G., Liu, S., Reinius, B., Scharfe, C., Griffin, P., Steinmetz, L. M., Javanmard, M., Pelechano, V.  
2023; 9 (36): eadi4997
- **Pooled Genome-Scale CRISPR Screens in Single Cells.** *Annual review of genetics*  
Schraivogel, D., Steinmetz, L. M., Parts, L.  
2023
- **Large scale microfluidic CRISPR screening for increased amylase secretion in yeast.** *Lab on a chip*  
Johansson, S. A., Dulermo, T., Jann, C., Smith, J. D., Prysizlak, A., Pignede, G., Schraivogel, D., Colavizza, D., Desfougères, T., Rave, C., Farwick, A., Merten, C. A., Roy, et al  
2023
- **Mislocalization of pathogenic RBM20 variants in dilated cardiomyopathy is caused by loss-of-interaction with Transportin-3.** *Nature communications*  
Kornienko, J., Rodríguez-Martínez, M., Fenzl, K., Hinze, F., Schraivogel, D., Grosch, M., Tunaj, B., Lindenhofer, D., Schraft, L., Kueblbeck, M., Smith, E., Mao, C., Brown, et al  
2023; 14 (1): 4312
- **Striated muscle-specific base editing enables correction of mutations causing dilated cardiomyopathy.** *Nature communications*  
Grosch, M., Schraft, L., Chan, A., Kuchenhoff, L., Rapti, K., Ferreira, A., Kornienko, J., Li, S., Radke, M. H., Kramer, C., Clauder-Munster, S., Perlas, E., Backs, et al  
2023; 14 (1): 3714
- **Atlas of mRNA translation and decay for bacteria.** *Nature microbiology*  
Huch, S., Nersisyan, L., Ropat, M., Barrett, D., Wu, M., Wang, J., Valeriano, V. D., Vardazaryan, N., Huerta-Cepas, J., Wei, W., Du, J., Steinmetz, L. M., Engstrand, et al  
2023

- **A scalable, GMP-compatible, autologous organotypic cell therapy for Dystrophic Epidermolysis Bullosa.** *bioRxiv : the preprint server for biology*  
Neumayer, G., Torkelson, J. L., Li, S., McCarthy, K., Zhen, H. H., Vangipuram, M., Jackow, J., Rami, A., Hansen, C., Guo, Z., Gaddam, S., Pappalardo, A., Li, et al  
2023
- **Differential regulation of mRNA stability modulates transcriptional memory and facilitates environmental adaptation.** *Nature communications*  
Li, B., Zeis, P., Zhang, Y., Alekseenko, A., Fürst, E., Sanchez, Y. P., Lin, G., Tekkedil, M. M., Piazza, I., Steinmetz, L. M., Pelechano, V.  
2023; 14 (1): 910
- **Ehf and Fezf2 regulate late medullary thymic epithelial cell and thymic tuft cell development.** *Frontiers in immunology*  
Lammers, S., Barrera, V., Brennecke, P., Miller, C., Yoon, J., Balolong, J., Anderson, M. S., Ho Sui, S., Steinmetz, L. M., von Andrian, U. H., Rattay, K.  
2023; 14: 1277365
- **Cell sorters see things more clearly now.** *Molecular systems biology*  
Schraivogel, D., Steinmetz, L. M.  
2023: e11254
- **Cardiac splicing as a diagnostic and therapeutic target.** *Nature reviews. Cardiology*  
Gotthardt, M., Badillo-Lisakowski, V., Parikh, V. N., Ashley, E., Furtado, M., Carmo-Fonseca, M., Schudy, S., Meder, B., Grosch, M., Steinmetz, L., Crocini, C., Leinwand, L.  
2023
- **RBM20 mislocalisation in dilated cardiomyopathy**  
Kornienko, J., Martinez, M., Fenzl, K., Schraft, L., Clauder-Muenster, S., Grosch, M., Steinmetz, L.  
ELSEVIER SCI LTD.2022: S102
- **Deep phenotyping of two pre-clinical mouse models and a cohort of RBM20 mutation carriers reveals no sex-dependent disease severity in RBM20 cardiomyopathy.** *American journal of physiology. Heart and circulatory physiology*  
Lennermann, D. C., Pepin, M. E., Grosch, M., Konrad, L., Kemmling, E., Hartmann, J., Nolte, J. L., Clauder-Munster, S., Kayvanpour, E., Sedaghat-Hamedani, F., Haas, J., Meder, B., van den Boogaard, et al  
2022
- **Hyperactive innate immune response and altered metabolism in a Drosophila model of NGLY1 deficiency**  
Pandey, A., Han, S., Galeone, A., Storey, B. A., Consonni, G., Mueller, W. F., Steinmetz, L., Vaccari, T., Jafar-Nejad, H.  
OXFORD UNIV PRESS INC.2022: 1039
- **NIMA-related kinase 9 regulates the phosphorylation of the essential myosin light chain in the heart.** *Nature communications*  
Muller, M., Eghbalian, R., Boeckel, J., Frese, K. S., Haas, J., Kayvanpour, E., Sedaghat-Hamedani, F., Lackner, M. K., Tugrul, O. F., Ruppert, T., Tappu, R., Martins Bordalo, D., Kneuer, et al  
2022; 13 (1): 6209
- **Genotype Complements the Phenotype: Identification of the Pathogenicity of an LMNA Splice Variant by Nanopore Long-Read Sequencing in a Large DCM Family.** *International journal of molecular sciences*  
Sedaghat-Hamedani, F., Rebs, S., Kayvanpour, E., Zhu, C., Amr, A., Müller, M., Haas, J., Wu, J., Steinmetz, L. M., Ehlermann, P., Streckfuss-Bömeke, K., Frey, N., Meder, et al  
2022; 23 (20)
- **A new mechanism of ATP synthase subunit 6 and 9 translation regulation by their assembly in yeast mitochondria**  
Kabala, A., Binko, K., Godard, F., Dautant, A., Baranowska, E., Skoczen, N., Gombeau, K., Bouhier, M., Becker, H., Ackerman, S., Steinmetz, L., Tribouillard-Tanvier, D., Kucharczyk, et al  
ELSEVIER.2022: 65
- **Transcription Factor GATA4 Regulates Cell Type-Specific Splicing Through Direct Interaction With RNA in Human Induced Pluripotent Stem Cell-Derived Cardiac Progenitors.** *Circulation*  
Zhu, L., Choudhary, K., Gonzalez-Teran, B., Ang, Y., Thomas, R., Stone, N. R., Liu, L., Zhou, P., Zhu, C., Ruan, H., Huang, Y., Jin, S., Pelonero, et al  
2022: CIRCULATIONAHA121057620
- **Transcriptomic diversity in human medullary thymic epithelial cells.** *Nature communications*  
Carter, J. A., Stromich, L., Peacey, M., Chapin, S. R., Velten, L., Steinmetz, L. M., Brors, B., Pinto, S., Meyer, H. V.  
2022; 13 (1): 4296

- **KIR+CD8+ T cells suppress pathogenic T cells and are active in autoimmune diseases and COVID-19.** *Science (New York, N.Y.)*  
Li, J., Zaslavsky, M., Su, Y., Guo, J., Sikora, M. J., van Unen, V., Christophersen, A., Chiou, S., Chen, L., Li, J., Ji, X., Wilhelmy, J., McSween, et al  
2022; eabi9591
- **Transcriptional neighborhoods regulate transcript isoform lengths and expression levels.** *Science (New York, N.Y.)*  
Brooks, A. N., Hughes, A. L., Clauder-Munster, S., Mitchell, L. A., Boeke, J. D., Steinmetz, L. M.  
2022; 375 (6584): 1000-1005
- **Assembly-dependent translation of subunits 6 (Atp6) and 9 (Atp9) of ATP synthase in yeast mitochondria.** *Genetics*  
Kabala, A. M., Binko, K., Godard, F., Charles, C., Dautant, A., Baranowska, E., Skoczen, N., Gombeau, K., Bouhier, M., Becker, H. D., Ackerman, S. H., Steinmetz, L. M., Tribouillard-Tanvier, et al  
2022
- **High-speed fluorescence image-enabled cell sorting.** *Science (New York, N.Y.)*  
Schraivogel, D., Kuhn, T. M., Rauscher, B., Rodríguez-Martínez, M., Paulsen, M., Owsley, K., Middlebrook, A., Tischer, C., Ramasz, B., Ordoñez-Rueda, D., Dees, M., Cuylen-Haering, S., Diebold, et al  
2022; 375 (6578): 315-320
- **Patient-derived gene and protein expression signatures of NGLY1 deficiency.** *Journal of biochemistry*  
Rauscher, B., Mueller, W. F., Clauder-Munster, S., Jakob, P., Islam, M. S., Sun, H., Ghidelli-Disse, S., Boesche, M., Bantscheff, M., Pflaumer, H., Collier, P., Haase, B., Chen, et al  
2021
- **Evidence for hyperactivation of innate immunity in a Drosophila model of NGLY1 deficiency**  
Pandey, A., Han, S., Mueller, W. F., Story, B. A., Galeone, A., Steinmetz, L., Jafar-Nejad, H.  
OXFORD UNIV PRESS INC.2021: 1715-1716
- **High-throughput functional characterization of protein phosphorylation sites in yeast.** *Nature biotechnology*  
Vieitez, C., Busby, B. P., Ochoa, D., Mateus, A., Memon, D., Galardini, M., Yildiz, U., Trovato, M., Jawed, A., Geiger, A. G., Oborska-Oplova, M., Potel, C. M., Vonesch, et al  
2021
- **Regulation of Msh4-Msh5 association with meiotic chromosomes in budding yeast.** *Genetics*  
Nandan, K. G., Salim, S., Pankajam, A. V., Shinohara, M., Lin, G., Chakraborty, P., Farnaz, A., Steinmetz, L. M., Shinohara, A., Nishant, K. T.  
2021; 219 (2)
- **Regulation of Msh4-Msh5 association with meiotic chromosomes in budding yeast** *GENETICS*  
Nandan, K. G., Salim, S., Pankajam, A., Shinohara, M., Lin, G., Chakraborty, P., Farnaz, A., Steinmetz, L. M., Shinohara, A., Nishant, K. T.  
2021; 219 (2)
- **High-Throughput Nucleotide Resolution Predictions of Assay Limitations Increase the Reliability and Concordance of Clinical Tests.** *JCO clinical cancer informatics*  
Bieler, J., Pozzorini, C., Garcia, J., Tuck, A. C., Macheret, M., Willig, A., Couraud, S., Xing, X., Menu, P., Steinmetz, L. M., Payen, L., Xu, Z.  
2021; 5: 1085-1095
- **Case-control study evaluating risk factors for SARS-CoV-2 outbreak amongst healthcare personnel at a tertiary care center.** *American journal of infection control*  
Rosser, J. I., Tayyar, R., Giardina, R., Kolonoski, P., Kenski, D., Shen, P., Steinmetz, L. M., Hung, L., Xiao, W., Bains, K., Morrison, T., Madison, A., Chang, et al  
2021
- **Dysregulated ribonucleoprotein granules promote cardiomyopathy in RBM20 gene-edited pigs (vol 26, pg 1788, 2020)** *NATURE MEDICINE*  
Schneider, J. W., Oommen, S., Qureshi, M. Y., Goetsch, S. C., Pease, D. R., Sundsbak, R. S., Guo, W., Sun, M., Sun, H., Kuroyanagi, H., Webster, D. A., Coutts, A. W., Holst, et al  
2021
- **The chaperone-binding activity of the mitochondrial surface receptor Tom70 protects the cytosol against mitoprotein-induced stress.** *Cell reports*  
Backes, S., Bykov, Y. S., Flohr, T., Raschle, M., Zhou, J., Lenhard, S., Kramer, L., Muhlhaus, T., Bibi, C., Jann, C., Smith, J. D., Steinmetz, L. M., Rapaport, et al  
2021; 35 (1): 108936
- **Recommendations for accurate genotyping of SARS-CoV-2 using amplicon-based sequencing of clinical samples.** *Clinical microbiology and infection : the official publication of the European Society of Clinical Microbiology and Infectious Diseases*

- Kubik, S., Marques, A. C., Xing, X., Silvery, J., Bertelli, C., De Maio, F., Pournaras, S., Burr, T., Duffourd, Y., Siemens, H., Alloui, C., Song, L., Wenger, et al  
2021
- **Single-cell analyses reveal SARS-CoV-2 interference with intrinsic immune response in the human gut.** *Molecular systems biology*  
Triana, S., Metz-Zumaran, C., Ramirez, C., Kee, C., Doldan, P., Shahraz, M., Schraivogel, D., Gschwind, A. R., Sharma, A. K., Steinmetz, L. M., Herrmann, C., Alexandrov, T., Boulant, et al  
2021; 17 (4): e10232
  - **CRISPRi screens reveal genes modulating yeast growth in lignocellulose hydrolysate.** *Biotechnology for biofuels*  
Gutmann, F., Jann, C., Pereira, F., Johansson, A., Steinmetz, L. M., Patil, K. R.  
2021; 14 (1): 41
  - **Fast and inexpensive whole-genome sequencing library preparation from intact yeast cells.** *G3 (Bethesda, Md.)*  
Vonesch, S. C., Li, S., Szu Tu, C., Hennig, B. P., Dobrev, N., Steinmetz, L. M.  
2021; 11 (1)
  - **Identification of leukemic and pre-leukemic stem cells by clonal tracking from single-cell transcriptomics.** *Nature communications*  
Velten, L., Story, B. A., Hernandez-Malmierca, P., Raffel, S., Leonce, D. R., Milbank, J., Paulsen, M., Demir, A., Szu-Tu, C., Fromel, R., Lutz, C., Nowak, D., Jann, et al  
2021; 12 (1): 1366
  - **Integrated single-cell transcriptomics and epigenomics reveals strong germinal center-associated etiology of autoimmune risk loci.** *Science immunology*  
King, H. W., Wells, K. L., Shipony, Z., Kathiria, A. S., Wagar, L. E., Lareau, C., Orban, N., Capasso, R., Davis, M. M., Steinmetz, L. M., James, L. K., Greenleaf, W. J.  
2021; 6 (64): eabh3768
  - **RBM20-Related Cardiomyopathy: Current Understanding and Future Options.** *Journal of clinical medicine*  
Koelemen, J., Gotthardt, M., Steinmetz, L. M., Meder, B.  
2021; 10 (18)
  - **Single-molecule, full-length transcript isoform sequencing reveals disease-associated RNA isoforms in cardiomyocytes.** *Nature communications*  
Zhu, C., Wu, J., Sun, H., Briganti, F., Meder, B., Wei, W., Steinmetz, L. M.  
2021; 12 (1): 4203
  - **A functional connection between translation elongation and protein folding at the ribosome exit tunnel in *Saccharomyces cerevisiae*.** *Nucleic acids research*  
Rodriguez-Galan, O., Garcia-Gomez, J. J., Rosado, I. V., Wei, W., Mendez-Godoy, A., Pillet, B., Alekseenko, A., Steinmetz, L. M., Pelechano, V., Kressler, D., de la Cruz, J.  
2020
  - **Exploring the mechanisms underlying the NGLY1 loss-of-function phenotypes in *Drosophila***  
Pandey, A., Han, S., Mueller, W. F., Story, B. A., Moore, T., Galeone, A., Cowan, T. M., Steinmetz, L.  
OXFORD UNIV PRESS INC.2020: 1026
  - **Combined transient ablation and single cell RNA sequencing reveals the development of medullary thymic epithelial cells.** *eLife*  
Wells, K. L., Miller, C. N., Gschwind, A. R., Wei, W., Phipps, J. D., Anderson, M. S., Steinmetz, L. M.  
2020; 9
  - **Rpb4 and Puf3 imprint and post-transcriptionally control the stability of a common set of mRNAs in yeast.** *RNA biology*  
Garrido-Godino, A. I., Gupta, I., Gutierrez-Santiago, F., Martinez-Padilla, A. B., Alekseenko, A., Steinmetz, L. M., Perez-Ortin, J. E., Pelechano, V., Navarro, F.  
2020
  - **MULTI-LAYERED SINGLE-CELL TRANSCRIPTIONAL PROFILING OF ALL BONE AND BONE MARROW POPULATIONS PROVIDES A SYSTEMS VIEW OF THE MESENCHYMAL AND HEMATOPOIETIC STEM CELL NICHE**  
Haas, S., Velten, L., Al-Sabah, J., Baccin, C., Steinmetz, L., Trumpp, A.  
ELSEVIER SCIENCE INC.2018: S47-S48
  - **Thymic tuft cells promote an IL-4-enriched medulla and shape thymocyte development** *NATURE*  
Miller, C. N., Proekt, I., von Moltke, J., Wells, K. L., Rajpurkar, A. R., Wang, H., Rattay, K., Khan, I. S., Metzger, T. C., Pollack, J. L., Fries, A. C., Lwin, W. W., Wigton, et al  
2018; 559 (7715): 627-+

- **Multiplexed precision genome editing with trackable genomic barcodes in yeast.** *Nature biotechnology*  
Roy, K. R., Smith, J. D., Vonesch, S. C., Lin, G., Tu, C. S., Lederer, A. R., Chu, A., Suresh, S., Nguyen, M., Horecka, J., Tripathi, A., Burnett, W. T., Morgan, et al  
2018
- **Large-Scale Low-Cost NGS Library Preparation Using a Robust Tn5 Purification and Tagmentation Protocol.** *G3 (Bethesda, Md.)*  
Hennig, B. P., Velten, L. n., Racke, I. n., Tu, C. S., Thoms, M. n., Rybin, V. n., Besir, H. n., Remans, K. n., Steinmetz, L. M.  
2018; 8 (1): 79–89
- **HUMAN HAEMATOPOIETIC STEM CELL DIFFERENTIATION FOLLOWS A CONTINUOUS WADDINGTON-LIKE LANDSCAPE**  
Haas, S., Velten, L., Raffel, S., Trumpp, A., Essers, M., Steinmetz, L.  
ELSEVIER SCIENCE INC.2017: S101
- **Human haematopoietic stem cell lineage commitment is a continuous process** *NATURE CELL BIOLOGY*  
Velten, L., Haas, S. F., Raffel, S., Blaszkiewicz, S., Islam, S., Hennig, B. P., Hirche, C., Lutz, C., Buss, E. C., Nowak, D., Boch, T., Hofmann, W., Ho, et al  
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