


Stanford



Dmitri Petrov

Michelle and Kevin Douglas Professor in the School of Humanities and Sciences

Biology

 Curriculum Vitae available Online

Bio

ACADEMIC APPOINTMENTS

- Professor, Biology
- Member, Bio-X
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Stanford Cancer Institute
- Affiliate, Stanford Woods Institute for the Environment

LINKS

- My Lab Site: <http://petrov.stanford.edu>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Evolution of genomes and population genomics of adaptation and variation

Teaching

COURSES

2023-24

- Evolution: BIO 85 (Win)
- Fundamentals of Molecular Evolution: BIO 113, BIO 244 (Win)

2022-23

- Evolution: BIO 85 (Win)

2021-22

- Evolution: BIO 85 (Win)
- Fundamentals of Molecular Evolution: BIO 113, BIO 244 (Win)

2020-21

- Evolution: BIO 85 (Win)
- Fundamentals of Molecular Evolution: BIO 113, BIO 244 (Win)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Tristram Dodge, Maike Morrison

Postdoctoral Faculty Sponsor

Clare Abreu, Mark Bitter, Alexandra Khristich, Bernard Kim, Manuel Razo-Mejia, Jean Vila, Haiqing Xu, Katherine Xue

Doctoral Dissertation Advisor (AC)

Tatiana Bellagio, Sofia Guajardo Beskid, James Hemker, Anastasia Lyulina, Shaili Mathur, Jess Rhodes, Karen Shih, Sophie Walton

Doctoral Dissertation Co-Advisor (AC)

Olivia Ghosh, Victoria Grant, Emily Shuldiner

Doctoral (Program)

Emily Shuldiner

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Biology (School of Humanities and Sciences) (Phd Program)
- Biomedical Informatics (Phd Program)

Publications

PUBLICATIONS

- **Bayesian inference of relative fitness on high-throughput pooled competition assays.** *PLoS computational biology*
Razo-Mejia, M., Mani, M., Petrov, D.
2024; 20 (3): e1011937
- **Competition for shared resources increases dependence on initial population size during coalescence of gut microbial communities.** *bioRxiv : the preprint server for biology*
Goldman, D. A., Xue, K. S., Parrott, A. B., Jeeda, R. R., Franzese, L. R., Lopez, J. G., Vila, J. C., Petrov, D. A., Good, B. H., Relman, D. A., Huang, K. C.
2023
- **Evolution of haploid and diploid populations reveals common, strong, and variable pleiotropic effects in non-home environments.** *eLife*
Chen, V., Johnson, M. S., Hérissant, L., Humphrey, P. T., Yuan, D. C., Li, Y., Agarwala, A., Hoelscher, S. B., Petrov, D. A., Desai, M. M., Sherlock, G.
2023; 12
- **Bayesian inference of relative fitness on high-throughput pooled competition assays.** *bioRxiv : the preprint server for biology*
Razo-Mejia, M., Mani, M., Petrov, D.
2023
- **Oncogenic context shapes the fitness landscape of tumor suppression.** *Nature communications*
Blair, L. M., Juan, J. M., Sebastian, L., Tran, V. B., Nie, W., Wall, G. D., Gerceker, M., Lai, I. K., Apilado, E. A., Grenot, G., Amar, D., Foggetti, G., Do Carmo, et al
2023; 14 (1): 6422
- **Single-fly assemblies fill major phylogenomic gaps across the Drosophilidae Tree of Life.** *bioRxiv : the preprint server for biology*
Kim, B. Y., Gellert, H. R., Church, S. H., Suvorov, A., Anderson, S. S., Barmina, O., Beskid, S. G., Comeault, A. A., Crown, K. N., Diamond, S. E., Dorus, S., Fujichika, T., Hemker, et al
2023
- **Prolonged delays in human microbiota transmission after a controlled antibiotic perturbation.** *bioRxiv : the preprint server for biology*
Xue, K. S., Walton, S. J., Goldman, D. A., Morrison, M. L., Verster, A. J., Parrott, A. B., Yu, F. B., Neff, N. F., Rosenberg, N. A., Ross, B. D., Petrov, D. A., Huang, K. C., Good, et al
2023

- **Strong environmental memory revealed by experimental evolution in static and fluctuating environments.** *bioRxiv : the preprint server for biology*
Abreu, C. I., Mathur, S., Petrov, D. A.
2023
- **Fully accessible fitness landscape of oncogene-negative lung adenocarcinoma.** *Proceedings of the National Academy of Sciences of the United States of America*
Yousefi, M., Andrejka, L., Szamecz, M., Winslow, M. M., Petrov, D. A., Boross, G.
2023; 120 (38): e2303224120
- **Author Correction: Machine learning reveals bilateral distribution of somatic L1 insertions in human neurons and glia.** *Nature neuroscience*
Zhu, X., Zhou, B., Pattni, R., Gleason, K., Tan, C., Kalinowski, A., Sloan, S., Fiston-Lavier, A. S., Mariani, J., Petrov, D., Barres, B. A., Duncan, L., Abyzov, et al
2023
- **In Vitro Reconstitution and Analysis of SARS-CoV-2/Host Protein-Protein Interactions.** *ACS omega*
Moradi, S. V., Wu, Y., Walden, P., Cui, Z., Johnston, W. A., Petrov, D., Alexandrov, K.
2023; 8 (28): 25009-25019
- **Extreme Sensitivity of Fitness to Environmental Conditions: Lessons from #1BigBatch.** *Journal of molecular evolution*
Kinsler, G., Schmidlin, K., Newell, D., Eder, R., Apodaca, S., Lam, G., Petrov, D., Geiler-Samerotte, K.
2023
- **Fully accessible fitness landscape of oncogene-negative lung adenocarcinoma.** *bioRxiv : the preprint server for biology*
Yousefi, M., Andrejka, L., Winslow, M. M., Petrov, D. A., Boross, G.
2023
- **Antigenic diversity in malaria parasites is maintained on extrachromosomal DNA.** *bioRxiv : the preprint server for biology*
Ebel, E. R., Kim, B. Y., McDew-White, M., Egan, E. S., Anderson, T. J., Petrov, D. A.
2023
- **A multiplexed in vivo approach to identify driver genes in small cell lung cancer.** *Cell reports*
Lee, M. C., Cai, H., Murray, C. W., Li, C., Shue, Y. T., Andrejka, L., He, A. L., Holzem, A. M., Drainas, A. P., Ko, J. H., Coles, G. L., Kong, C., Zhu, et al
2023; 42 (1): 111990
- **Multiplexed screens identify RAS paralogues HRAS and NRAS as suppressors of KRAS-driven lung cancer growth.** *Nature cell biology*
Tang, R., Shuldiner, E. G., Kelly, M., Murray, C. W., Hebert, J. D., Andrejka, L., Tsai, M. K., Hughes, N. W., Parker, M. I., Cai, H., Li, Y. C., Wahl, G. M., Dunbrack, et al
2023
- **Genome Report: Chromosome-level draft assemblies of the snow leopard, African leopard, and tiger (Panthera uncia, Panthera pardus pardus, and Panthera tigris).** *G3 (Bethesda, Md.)*
Armstrong, E. E., Campana, M. G., Solari, K. A., Morgan, S. R., Ryder, O. A., Naude, V. N., Samelius, G., Sharma, K., Hadly, E. A., Petrov, D. A.
2022
- **Most cancers carry a substantial deleterious load due to Hill-Robertson interference.** *eLife*
Tilk, S., Tkachenko, S., Curtis, C., Petrov, D. A., McFarland, C. D.
2022; 11
- **Dissecting the role of Stag2 in lung adenocarcinoma**
Ashkin, E. L., Cai, H., Tang, Y. J., Li, C., Chew, S., Hung, K., Belk, J., Karmakar, S., Hebert, J., Yousefi, M., Swanton, C., Petrov, D. A., Winslow, et al
AMER ASSOC CANCER RESEARCH.2022
- **A journey to deconvolute the multifaceted functions and context-dependency of cancer driver genes**
Cai, H., Chew, S., Li, C., Murray, C. W., Andrejka, L., Hebert, J. D., Tsai, M. K., Tang, R., Hughes, N. W., Shuldiner, E. G., Ashkin, E. L., Lee, S. C., Yousefi, et al
AMER ASSOC CANCER RESEARCH.2022
- **A quantitative in vivo pharmacogenomics platform uncovers biomarkers of therapy response**
Rosen, M., Amar, D., Winters, I., Rizvi, H., Nie, W., Wall, G., Petrov, D., Winslow, M., Rudin, C., Juan, J.
AMER ASSOC CANCER RESEARCH.2022

- **Combinatorial Inactivation of Tumor Suppressors Efficiently Initiates Lung Adenocarcinoma with Therapeutic Vulnerabilities.** *Cancer research*
Yousefi, M., Boross, G., Weiss, C., Murray, C. W., Hebert, J. D., Cai, H., Ashkin, E. L., Karmakar, S., Andrejka, L., Chen, L., Wang, M., Tsai, M. K., Lin, et al
2022; 82 (8): 1589-1602
- **Direct observation of adaptive tracking on ecological time scales in *Drosophila*.** *Science (New York, N.Y.)*
Rudman, S. M., Greenblum, S. I., Rajpurohit, S., Betancourt, N. J., Hanna, J., Tilk, S., Yokoyama, T., Petrov, D. A., Schmidt, P.
2022; 375 (6586): eabj7484
- **Revisiting the malaria hypothesis: accounting for polygenicity and pleiotropy.** *Trends in parasitology*
Ebel, E. R., Uricchio, L. H., Petrov, D. A., Egan, E. S.
1800
- **Tumor suppressor pathways shape EGFR-driven lung tumor progression and response to treatment.** *Molecular & cellular oncology*
Foggetti, G., Li, C., Cai, H., Petrov, D. A., Winslow, M. M., Politi, K.
2022; 9 (1): 1994328
- **Tumor suppressor pathways shape EGFR-driven lung tumor progression and response to treatment** *MOLECULAR & CELLULAR ONCOLOGY*
Foggetti, G., Li, C., Cai, H., Petrov, D. A., Winslow, M. M., Politi, K.
2021
- **The Tetragnatha kauaiensis genome sheds light on the origins of genomic novelty in spiders.** *Genome biology and evolution*
Cerca, J., Armstrong, E. E., Vizueta, J., Fernandez, R., Dimitrov, D., Petersen, B., Prost, S., Rozas, J., Petrov, D., Gillespie, R. G.
2021
- **Common host variation drives malaria parasite fitness in healthy human red cells.** *eLife*
Ebel, E. R., Kuypers, F. A., Lin, C., Petrov, D. A., Egan, E. S.
2021; 10
- **Common host variation drives malaria parasite fitness in healthy human red cells** *ELIFE*
Ebel, E. R., Kuypers, F. A., Lin, C., Petrov, D. A., Egan, E. S.
2021; 10
- **Richard C. Lewontin (1929-2021).** *Science (New York, N.Y.)*
Berry, A., Petrov, D. A.
2021; 373 (6556): 745
- **Highly contiguous assemblies of 101 drosophilid genomes.** *eLife*
Kim, B. Y., Wang, J., Miller, D. E., Barmina, O., Delaney, E. K., Thompson, A., Comeault, A. A., Peede, D., D'Agostino, E. R., Pelaez, J., Aguilar, J. M., Haji, D., Matsunaga, et al
2021; 10
- **Quantitative in vivo analyses reveal a complex pharmacogenomic landscape in lung adenocarcinoma.** *Cancer research*
Li, C., Lin, W., Rizvi, H., Cai, H., McFarland, C. D., Rogers, Z. N., Yousefi, M., Winters, I. P., Rudin, C. M., Petrov, D. A., Winslow, M. M.
2021
- **Broad geographic sampling reveals the shared basis and environmental correlates of seasonal adaptation in *Drosophila*.** *eLife*
Machado, H. E., Bergland, A., Taylor, R. W., Tilk, S., Behrman, E., Dyer, K., Fabian, D. K., Flatt, T., Gonzalez, J., Karasov, T. L., Kim, B. Y., Kozeretska, I., Lazzaro, et al
2021; 10
- **Functional biology in its natural context: A search for emergent simplicity.** *eLife*
Bergelson, J., Kreitman, M., Petrov, D. A., Sanchez, A., Tikhonov, M.
2021; 10
- **The cis-regulatory effects of modern human-specific variants.** *eLife*
Weiss, C. V., Harshman, L., Inoue, F., Fraser, H. B., Petrov, D. A., Ahituv, N., Gokhman, D.
2021; 10
- **The AMBRA1 E3 ligase adaptor regulates the stability of cyclinD.** *Nature*

Chaikovsky, A. C., Li, C., Jeng, E. E., Loebell, S., Lee, M. C., Murray, C. W., Cheng, R., Demeter, J., Swaney, D. L., Chen, S., Newton, B. W., Johnson, J. R., Drinas, et al

2021

- **Historical trends and new surveillance of Plasmodium falciparum drug resistance markers in Angola.** *Malaria journal*
Ebel, E. R., Reis, F., Petrov, D. A., Beleza, S.
2021; 20 (1): 175
- **Genetic determinants of EGFR-Driven Lung Cancer Growth and Therapeutic Response In Vivo.** *Cancer discovery*
Foggetti, G., Li, C., Cai, H., Hellyer, J. A., Lin, W., Ayeni, D., Hastings, K., Choi, J., Wurtz, A., Andrejka, L., Maghini, D. G., Rashleigh, N., Levy, et al
2021
- **Detection of hard and soft selective sweeps from Drosophila melanogaster population genomic data.** *PLoS genetics*
Garud, N. R., Messer, P. W., Petrov, D. A.
2021; 17 (2): e1009373
- **The clarifying role of time series data in the population genetics of HIV.** *PLoS genetics*
Feder, A. F., Pennings, P. S., Petrov, D. A.
2021; 17 (1): e1009050
- **Widespread introgression across a phylogeny of 155 Drosophila genomes.** *Current biology : CB*
Suvorov, A., Kim, B. Y., Wang, J., Armstrong, E. E., Peede, D., D'Agostino, E. R., Price, D. K., Waddell, P., Lang, M., Courtier-Orgogozo, V., David, J. R., Petrov, D., Matute, et al
2021
- **Drosophila Evolution over Space and Time (DEST) - A New Population Genomics Resource.** *Molecular biology and evolution*
Kapun, M., Nunez, J. C., Bogaerts-Márquez, M., Murga-Moreno, J., Paris, M., Outten, J., Coronado-Zamora, M., Tern, C., Rota-Stabelli, O., García Guerreiro, M. P., Casillas, S., Orengo, D. J., Puerma, et al
2021
- **Publisher Correction: Human-chimpanzee fused cells reveal cis-regulatory divergence underlying skeletal evolution.** *Nature genetics*
Gokhman, D. n., Agoglia, R. M., Kinnebrew, M. n., Gordon, W. n., Sun, D. n., Bajpai, V. K., Naqvi, S. n., Chen, C. n., Chan, A. n., Chen, C. n., Petrov, D. A., Ahituv, N. n., Zhang, et al
2021
- **Human-chimpanzee fused cells reveal cis-regulatory divergence underlying skeletal evolution.** *Nature genetics*
Gokhman, D. n., Agoglia, R. M., Kinnebrew, M. n., Gordon, W. n., Sun, D. n., Bajpai, V. K., Naqvi, S. n., Chen, C. n., Chan, A. n., Chen, C. n., Petrov, D. A., Ahituv, N. n., Zhang, et al
2021
- **Recent evolutionary history of tigers highlights contrasting roles of genetic drift and selection.** *Molecular biology and evolution*
Armstrong, E. E., Khan, A. n., Taylor, R. W., Gouy, A. n., Greenbaum, G. n., Thiéry, A. n., Kang, J. T., Redondo, S. A., Prost, S. n., Barsh, G. n., Kaelin, C. n., Phalke, S. n., Chugani, et al
2021
- **A functional taxonomy of tumor suppression in oncogenic KRAS-driven lung cancer.** *Cancer discovery*
Cai, H. n., Chew, S. K., Li, C. n., Tsai, M. K., Andrejka, L. n., Murray, C. W., Hughes, N. W., Shuldiner, E. G., Ashkin, E. L., Tang, R. n., Hung, K. L., Chen, L. C., Lee, et al
2021
- **Machine learning reveals bilateral distribution of somatic L1 insertions in human neurons and glia.** *Nature neuroscience*
Zhu, X. n., Zhou, B. n., Pattni, R. n., Gleason, K. n., Tan, C. n., Kalinowski, A. n., Sloan, S. n., Fiston-Lavier, A. S., Mariani, J. n., Petrov, D. n., Barres, B. A., Duncan, L. n., Abyzov, et al
2021
- **Fitness variation across subtle environmental perturbations reveals local modularity and global pleiotropy of adaptation** *ELIFE*
Kinsler, G., Geiler-Samerotte, K., Petrov, D.
2020; 9
- **Ancient RNA virus epidemics through the lens of recent adaptation in human genomes.** *Philosophical transactions of the Royal Society of London. Series B, Biological sciences*

-
- Enard, D., Petrov, D. A.
2020; 375 (1812): 20190575
- **Genetic Adaptation in New York City Rats.** *Genome biology and evolution*
Harpak, A., Garud, N., Rosenberg, N. A., Petrov, D. A., Combs, M., Pennings, P. S., Munshi-South, J.
2020
 - **Genetic determinants of EGFR-driven lung cancer growth and therapeutic response in vivo**
Foggetti, G., Li, C., Cai, H., Lin, W., Ayeni, D., Hastings, K., Andrejka, L., Maghini, D., Homer, R., Petrov, D. A., Winslow, M. M., Politi, K.
AMER ASSOC CANCER RESEARCH.2020
 - **Multiplexed functional cancer genomics.**
Cai, H., Li, C., Chew, S., Yousefi, M., Foggetti, G., Lin, W., Rogers, Z. N., Winters, I. P., McFarland, C. D., Politi, K., Swanton, C., Petrov, D. A., Winslow, et al
AMER ASSOC CANCER RESEARCH.2020: 23
 - **Pervasive Strong Selection at the Level of Codon Usage Bias in *Drosophila melanogaster*.** *Genetics*
Machado, H. E., Lawrie, D. S., Petrov, D. A.
2020; 214 (2): 511-528
 - **Long live the king: chromosome-level assembly of the lion (*Panthera leo*) using linked-read, Hi-C, and long-read data.** *BMC biology*
Armstrong, E. E., Taylor, R. W., Miller, D. E., Kaelin, C. B., Barsh, G. S., Hadly, E. A., Petrov, D.
2020; 18 (1): 3
 - **Fitness variation across subtle environmental perturbations reveals local modularity and global pleiotropy of adaptation.** *eLife*
Kinsler, G. n., Geiler-Samerotte, K. n., Petrov, D. A.
2020; 9
 - **Accurate Allele Frequencies from Ultra-low Coverage Pool-Seq Samples in Evolve-and-Resequencing Experiments.** *G3 (Bethesda, Md.)*
Tilk, S., Bergland, A., Goodman, A., Schmidt, P., Petrov, D., Greenblum, S.
2019
 - **Single nucleotide mapping of trait space reveals Pareto fronts that constrain adaptation.** *Nature ecology & evolution*
Li, Y., Petrov, D. A., Sherlock, G.
2019
 - **Microbiome composition shapes rapid genomic adaptation of *Drosophila melanogaster*.** *Proceedings of the National Academy of Sciences of the United States of America*
Rudman, S. M., Greenblum, S., Hughes, R. C., Rajpurohit, S., Kiratli, O., Lowder, D. B., Lemmon, S. G., Petrov, D. A., Chaston, J. M., Schmidt, P.
2019
 - **Evolutionary Dynamics in Structured Populations Under Strong Population Genetic Forces.** *G3 (Bethesda, Md.)*
Feder, A. F., Pennings, P. S., Hermisson, J., Petrov, D. A.
2019
 - **Exploiting selection at linked sites to infer the rate and strength of adaptation** *NATURE ECOLOGY & EVOLUTION*
Uricchio, L. H., Petrov, D. A., Enard, D.
2019; 3 (6): 977–84
 - **Empowering conservation practice with efficient and economical genotyping from poor quality samples.** *Methods in ecology and evolution*
Natesh, M., Taylor, R. W., Truelove, N. K., Hadly, E. A., Palumbi, S. R., Petrov, D. A., Ramakrishnan, U.
2019; 10 (6): 853-859
 - **Empowering conservation practice with efficient and economical genotyping from poor quality samples** *METHODS IN ECOLOGY AND EVOLUTION*
Natesh, M., Taylor, R. W., Truelove, N. K., Hadly, E. A., Palumbi, S. R., Petrov, D. A., Ramakrishnan, U.
2019; 10 (6): 853–59
 - **Exploiting selection at linked sites to infer the rate and strength of adaptation.** *Nature ecology & evolution*
Uricchio, L. H., Petrov, D. A., Enard, D.
2019

- **Cost-effective assembly of the African wild dog (*Lycaon pictus*) genome using linked reads** *GIGASCIENCE*
Armstrong, E. E., Taylor, R. W., Prost, S., Blinston, P., van der Meer, E., Madzikanda, H., Mufute, O., Mandisodza-Chikerema, R., Stuelpnagel, J., Sillero-Zubiri, C., Petrov, D.
2019; 8 (2)
- **Stress response, behavior, and development are shaped by transposable element-induced mutations in *Drosophila*.** *PLoS genetics*
Rech, G. E., Bogaerts-Marquez, M., Barron, M. G., Merenciano, M., Villanueva-Canas, J. L., Horvath, V., Fiston-Lavier, A., Luyten, I., Venkataram, S., Quesneville, H., Petrov, D. A., Gonzalez, J.
2019; 15 (2): e1007900
- **Stress response, behavior, and development are shaped by transposable element-induced mutations in *Drosophila*** *PLOS GENETICS*
Rech, G. E., Bogaerts-Marquez, M., Barron, M. G., Merenciano, M., Luis Villanueva-Canas, J., Horvath, V., Fiston-Lavier, A., Luyten, I., Venkataram, S., Quesneville, H., Petrov, D. A., Gonzalez, J.
2019; 15 (2)
- **Pervasive Strong Selection at the Level of Codon Usage Bias in *Drosophila melanogaster*.** *Genetics*
Machado, H. E., Lawrie, D. S., Petrov, D. A.
2019
- **MACHINE LEARNING ANALYSIS OF ULTRA-DEEP WHOLE-GENOME SEQUENCING IN HUMAN BRAIN REVEALS SOMATIC GENOMIC RETROTRANSPOSITION IN GLIA AS WELL AS IN NEURONS**
Urban, A., Zhu, X., Zhou, B., Sloan, S., Pattni, R., Fiston-Lavier, A., Snyder, M., Petrov, D., Abyzov, A., Vaccarino, F., Barres, B., Vogel, H., Tamminga, et al
ELSEVIER.2019: 1240
- **Tissue-Specific cis-Regulatory Divergence Implicates *eloF* in Inhibiting Interspecies Mating in *Drosophila*** *CURRENT BIOLOGY*
Combs, P. A., Krupp, J. J., Khosla, N. M., Bua, D., Petrov, D. A., Levine, J. D., Fraser, H. B.
2018; 28 (24): 3969-+
- **Tissue-Specific cis-Regulatory Divergence Implicates *eloF* in Inhibiting Interspecies Mating in *Drosophila*.** *Current biology : CB*
Combs, P. A., Krupp, J. J., Khosla, N. M., Bua, D., Petrov, D. A., Levine, J. D., Fraser, H. B.
2018
- **Cost-effective assembly of the African wild dog (*Lycaon pictus*) genome using linked reads.** *GigaScience*
Armstrong, E. E., Taylor, R. W., Prost, S., Blinston, P., van der Meer, E., Madzikanda, H., Mufute, O., Mandisodza-Chikerema, R., Stuelpnagel, J., Sillero-Zubiri, C., Petrov, D.
2018
- **Evidence that RNA Viruses Drove Adaptive Introgression between Neanderthals and Modern Humans** *CELL*
Enard, D., Petrov, D. A.
2018; 175 (2): 360-+
- **Spatiotemporal dynamics and genome-wide association genome-wide association analysis of desiccation tolerance in *Drosophila melanogaster*** *MOLECULAR ECOLOGY*
Rajpurohit, S., Gefen, E., Bergland, A. O., Petrov, D. A., Gibbs, A. G., Schmidt, P. S.
2018; 27 (17): 3525-40
- **Functional lung cancer genomics through in vivo genome editing**
Winters, I. P., Rogers, Z. N., McFarland, C. D., Lalgudi, P. V., Chiou, S., Kay, M. A., Petrov, D., Winslow, M. M.
AMER ASSOC CANCER RESEARCH.2018
- **Tripolar chromosome segregation drives the association between maternal genotype at variants spanning *PLK4* and aneuploidy in human preimplantation embryos** *HUMAN MOLECULAR GENETICS*
McCoy, R. C., Newnham, L. J., Ottolini, C. S., Hoffmann, E. R., Chatzimeletiou, K., Cornejo, O. E., Zhan, Q., Zaninovic, N., Rosenwaks, Z., Petrov, D. A., Demko, Z. P., Sigurjonsson, S., Handyside, et al
2018; 27 (14): 2573-85
- **Quantitative and multiplex analysis of the genomic determinants of tumorigenesis.**
Winters, I., Rogers, Z., McFarland, C., Petrov, D., Winslow, M. M.
AMER ASSOC CANCER RESEARCH.2018: 15-16
- **Mapping the in vivo fitness landscape of lung adenocarcinoma tumor suppression in mice** *NATURE GENETICS*

- Rogers, Z. N., McFarland, C. D., Winters, I. P., Seoane, J. A., Brady, J. J., Yoon, S., Curtis, C., Petrov, D. A., Winslow, M. M.
2018; 50 (4): 483-+
- **Hidden Complexity of Yeast Adaptation under Simple Evolutionary Conditions** *CURRENT BIOLOGY*
Li, Y., Venkataram, S., Agarwala, A., Dunn, B., Petrov, D. A., Sherlock, G., Fisher, D. S.
2018; 28 (4): 515-+
 - **Rapid seasonal evolution in innate immunity of wild *Drosophila melanogaster*** *PROCEEDINGS OF THE ROYAL SOCIETY B-BIOLOGICAL SCIENCES*
Behrman, E. L., Howick, V. M., Kapun, M., Staubach, F., Bergland, A. O., Petrov, D. A., Lazzaro, B. P., Schmidt, P. S.
2018; 285 (1870)
 - **Seasonally fluctuating selection can maintain polymorphism at many loci via segregation lift** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Wittmann, M. J., Bergland, A. O., Feldman, M. W., Schmidt, P. S., Petrov, D. A.
2017; 114 (46): E9932–E9941
 - **High rate of adaptation of mammalian proteins that interact with *Plasmodium* and related parasites** *PLOS GENETICS*
Ebel, E. R., Telis, N., Venkataram, S., Petrov, D. A., Enard, D.
2017; 13 (9): e1007023
 - **A quantitative and multiplexed approach to uncover the fitness landscape of tumor suppression in vivo.** *Nature methods*
Rogers, Z. N., McFarland, C. D., Winters, I. P., Naranjo, S., Chuang, C., Petrov, D., Winslow, M. M.
2017
 - **A spatio-temporal assessment of simian/human immunodeficiency virus (SHIV) evolution reveals a highly dynamic process within the host.** *PLoS pathogens*
Feder, A. F., Kline, C., Polacino, P., Cottrell, M., Kashuba, A. D., Keele, B. F., Hu, S., Petrov, D. A., Pennings, P. S., Ambrose, Z.
2017; 13 (5)
 - **Soft Selective Sweeps in Evolutionary Rescue.** *Genetics*
Wilson, B. A., Pennings, P. S., Petrov, D. A.
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