

Yuanqing Feng, Ph.D.

Research associate

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Education:

- 2011 - 2017 Ph.D. in Molecular Medicine, Peking University, China
Mentor: Prof. Ruiping Xiao
- 2007 - 2011 B.S. in Pharmaceutical Engineering, Jilin University, China

Training:

- 2023 - Research Associate, Department of Genetics, University of Pennsylvania
Mentor: Prof. Sarah Tishkoff
- 2018 -2023 Postdoc in human genetics, Department of Genetics, University of Pennsylvania
Mentor: Prof. Sarah Tishkoff

Research areas:

Population genetics, functional genomics, noncoding variants.

My research mainly focuses on the role of noncoding variants in human adaptation and human diseases. First, I have applied GWAS, selection scanning, and functional genomics to investigate the molecular mechanisms underlying human skin pigmentation (*HMG*, 2021; *Cell*, 2023; *Nature Genetics*, 2024). Second, I have identified loci under natural selection near genes related to SARS-CoV2 infection in African populations and revealed their associations with human diseases (*PNAS*, 2022). Finally, I am currently using single-cell RNA-seq to identify genes related to malaria in African populations.

Google scholar page:

<https://scholar.google.com/citations?user=nWYWiVUAAAAJ&hl=en>

Publications:

1. **Y. Feng**, N. Xie, F. Inoue, S. Fan, J. Saskin, C. Zhang, F. Zhang, M. E. B. Hansen, T. Nyambo, S. W. Mpoloka, G. G. Mokone, C. Fokunang, G. Belay, A. K. Njamnshi, M. S. Marks, E. Oancea, N. Ahituv, S. A. Tishkoff, Integrative functional genomic analyses identify genetic variants influencing skin pigmentation in Africans. *Nature Genetics*. 56, 258–272 (2024).
2. **Y. Feng**, A. S. Tishkoff., Unravelling the molecular mechanisms of skin color diversity in Africans. *Nature Genetics*. 56, 200–201 (2024).
3. S. Fan, J. P. Spence, **Y. Feng**, M. E. B. Hansen, J. Terhorst, M. H. Beltrame, A. Ranciaro, J. Hirbo, W. Beggs, N. Thomas, T. Nyambo, S. W. Mpoloka, G. G. Mokone, A. Njamnshi, C. Fokunang, D. W. Meskel, G. Belay, Y. S. Song, S. A. Tishkoff, Whole-genome sequencing reveals a complex African population demographic history and signatures of local adaptation. *Cell* 186, 923–939.e14 (2023).
4. C. Zhang*, A. Verma*, **Y. Feng***, M. C. R. Melo, M. McQuillan, M. Hansen, A. Lucas, J. Park, A. Ranciaro, S. Thompson, M. A. Rubel, M. C. Campbell, W. Beggs, J. Hirbo, S. Wata Mpoloka, G. George Mokone, Regeneron Genetic Center, T. Nyambo, D. Wolde Meskel, G. Belay, C. Fokunang, A. K. Njamnshi, S. A. Omar, S. M. Williams, D. J. Rader, M. D. Ritchie, C. de la Fuente-Nunez, G. Sirugo, S.

- A. Tishkoff, Impact of natural selection on global patterns of genetic variation and association with clinical phenotypes at genes involved in SARS-CoV-2 infection. *Proc. Natl. Acad. Sci. U. S. A.* 119, e2123000119 (2022).
5. **Y. Feng**, M. A. McQuillan, S. A. Tishkoff, Evolutionary genetics of skin pigmentation in African populations. *Hum. Mol. Genet.* **30**, R88–R97 (2021).
 6. **Y. Feng**, H. Xu, J. Liu, N. Xie, L. Gao, Y. He, Y. Yao, F. Lv, Y. Zhang, J. Lu, W. Zhang, C.-Y. Li, X. Hu, Z. Yang, R.-P. Xiao, Functional and Adaptive Significance of Promoter Mutations That Affect Divergent Myocardial Expressions of TRIM72 in Primates. *Mol. Biol. Evol.* **38**, 2930–2945 (2021).
 7. Y. Jiang, J. Huang, K. Lun, B. Li, H. Zheng, Y. Li, R. Zhou, W. Duan, C. Wang, **Y. Feng**, H. Yao, C. Li, X. Ji, Genome-wide analyses of chromatin interactions after the loss of Pol I, Pol II, and Pol III. *Genome Biol.* **21**, 158 (2020).
 8. G. Li, N. Xie, Y. Yao, Y. Zhang, J. Guo, **Y. Feng**, F. Lv, R.-P. Xiao, C.-M. Cao, Identification of PI3K regulatory subunit p55 γ as a novel inhibitor of vascular smooth muscle cell proliferation and neointimal formation. *Cardiovasc. Res.* **105**, 75–85 (2015).
 9. J. Guo, N. Xie, G. Li, Y. Zhang, F. Lv, S. Guo, **Y. Feng**, C.-M. Cao, R.-P. Xiao, p55 γ functional mimetic peptide N24 blocks vascular proliferative disorders. *J. Mol. Med.* **93**, 1107–1118 (2015).
 10. N. Xie, M. Chen, R. Dai, Y. Zhang, H. Zhao, Z. Song, L. Zhang, Z. Li, **Y. Feng**, H. Gao, L. Wang, T. Zhang, R.-P. Xiao, J. Wu, C.-M. Cao, SRSF1 promotes vascular smooth muscle cell proliferation through a $\Delta 133p53/EGR1/KLF5$ pathway. *Nat. Commun.* **8**, 16016 (2017).
 11. Y. Zhu, N. Mitra, **Y. Feng**, S. Tishkoff, O. Hoffstad, D. Margolis, FLG Variation Differs between European Americans and African Americans. *J. Invest. Dermatol.* **141**, 1855–1857 (2021).
 12. F. Liu*, R. Song*, **Y. Feng***, J. Guo, Y. Chen, Y. Zhang, T. Chen, Y. Wang, Y. Huang, C.-Y. Li, C. Cao, Zhang, X. Hu, R.-P. Xiao, Upregulation of MG53 induces diabetic cardiomyopathy through transcriptional activation of peroxisome proliferation-activated receptor α . *Circulation.* **131**, 795–804(2015).

Awards:

- 2023 Chan Zuckerberg Initiative Next Generation Researcher Pilot Projects (\$20,000)
- 2023 Travel stipends for Advanced Gene Mapping Course at The Rockefeller University (\$1,000)
- 2016 National Scholarship for Graduate Students, Peking University
- 2015 President's Scholarship, Peking University

Invited talk:

Y. Feng, et al. Integrative functional genomic analyses identify novel genetic variants influencing skin pigmentation in indigenous Africans. Annual meeting of American Society of Human Genetics (2022)

Attended Meeting:

- Advanced Gene Mapping Course at The Rockefeller University (2023)
- NIH Junior Investigators Atlas Building Meeting (2023)
- Chan Zuckerberg Initiative Single-Cell Biology Annual Meeting (2022)
- Annual meeting of American Society of Human Genetics (2022)
- The Biology of Genomes, CSHL (2020)
- Annual meeting of American Society of Human Genetics (2020)
- Annual meeting of American Society of Human Genetics (2019)

References:

1. Prof. Sarah Tishkoff (Postdoc mentor)

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2. Prof. Michael S. Marks (Postdoc collaborator) Email: marksm@pennmedicine.upenn.edu Website:

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3. Prof. Rui-Ping Xiao (PhD mentor)

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Website: <http://www.cls.edu.cn/english/PrincipalInvestigator/pi/index1646.shtml>

4. Dr. Xin-li Hu (PhD collaborator)

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Website: <http://scholar.pku.edu.cn/lxhu/home>