

Stanford



Siva Kasinathan

- Postdoctoral Medical Fellow, Rheumatology
- Fellow in Pediatrics - Rheumatology

Bio

BIO

Siva Kasinathan, MD, PhD is a Clinical Fellow in Pediatric Rheumatology at the Stanford University School of Medicine and Lucile Packard Children's Hospital at Stanford. His graduate research in the MD-PhD program at the University of Washington included the innovation of genome-scale methods for chromatin profiling and generated new insights in centromere biology and gene regulation. During his clinical training in pediatrics at Stanford, Siva continued develop genomic technologies, this time with a focus on single-molecule sequencing. Siva's research interests span genetics, epigenomics, and immune dysregulation. His ongoing work with Dr. Ansu Satpathy involves developing and applying sensitive new methods for analyzing immunogenetic variation in lupus. As a physician-scientist, Siva is committed combining clinical medicine and basic and translational research to better understand the molecular mechanisms of autoimmunity and autoinflammation to improve outcomes for patients with rheumatic diseases.

CLINICAL FOCUS

- Rheumatology
- Pediatrics
- Fellow

INSTITUTE AFFILIATIONS

- Member, Maternal & Child Health Research Institute (MCHRI)

HONORS AND AWARDS

- Gary S. Gilkeson, MD Career Development Award, Lupus Foundation of America (2023 - 2025)
- Ernest and Amelia Gallo Endowed Fellow, Stanford Maternal and Child Health Research Institute (2023 - 2025)
- Hugh O'Brodovich Excellence in Basic Research Award, Stanford Department of Pediatrics (2022)
- Arnold P. Gold Humanism in Medicine Honor Society, University of Washington (2019)
- Micki and Robert Flowers Endowed Fellowship, Seattle ARCS Foundation (2012 - 2015)
- Joshua Green Foundation Endowed Scholarship, University of Washington (2011)
- Barry M. Goldwater Scholarship, The Barry Goldwater Scholarship Foundation (2009)

PROFESSIONAL EDUCATION

- Doctor of Philosophy, University of Washington (2017)
- Doctor of Medicine, University of Washington (2019)
- Board Certification, American Board of Pediatrics , Pediatrics (2022)

- Residency, Stanford Health Care at Lucile Packard Children's Hospital , Pediatrics (2022)
- Internship, Stanford Health Care at Lucile Packard Children's Hospital , Pediatrics (2020)
- MD, University of Washington School of Medicine , Medicine (2019)
- PhD, University of Washington , Molecular and Cell Biology (2017)

Publications

PUBLICATIONS

- **Transposition enables low-input single-molecule concurrent genomics and epigenomics** *NATURE GENETICS*
Kasinathan, S., Ramani, V.
2024
- **Direct transposition of native DNA for sensitive multimodal single-molecule sequencing.** *Nature genetics*
Nanda, A. S., Wu, K., Irklyenko, I., Woo, B., Ostrowski, M. S., Clugston, A. S., Sayles, L. C., Xu, L., Satpathy, A. T., Nguyen, H. G., Alejandro Sweet-Cordero, E., Goodarzi, H., Kasinathan, et al
2024
- **Nucleosome density shapes kilobase-scale regulation by a mammalian chromatin remodeler.** *Nature structural & molecular biology*
Abdulhay, N. J., Hsieh, L. J., McNally, C. P., Ostrowski, M. S., Moore, C. M., Ketavarapu, M., Kasinathan, S., Nanda, A. S., Wu, K., Chio, U. S., Zhou, Z., Goodarzi, H., Narlikar, et al
2023
- **The glucose-sensing transcription factor MLX balances metabolism and stress to suppress apoptosis and maintain spermatogenesis.** *PLoS biology*
Carroll, P. A., Freie, B. W., Cheng, P. F., Kasinathan, S., Gu, H., Hedrich, T., Dowdle, J. A., Venkataramani, V., Ramani, V., Wu, X., Raftery, D., Shendure, J., Ayer, et al
2021; 19 (10): e3001085
- **Massively multiplex single-molecule oligonucleosome footprinting.** *eLife*
Abdulhay, N. J., McNally, C. P., Hsieh, L. J., Kasinathan, S., Keith, A., Estes, L. S., Karimzadeh, M., Underwood, J. G., Goodarzi, H., Narlikar, G. J., Ramani, V.
2020; 9
- **Non-B-Form DNA Is Enriched at Centromeres.** *Molecular biology and evolution*
Kasinathan, S. n., Henikoff, S. n.
2018; 35 (4): 949–62
- **Simple and Complex Centromeric Satellites in Drosophila Sibling Species.** *Genetics*
Talbert, P. B., Kasinathan, S. n., Henikoff, S. n.
2018; 208 (3): 977–90
- **Remarkable Evolutionary Plasticity of Centromeric Chromatin.** *Cold Spring Harbor symposia on quantitative biology*
Henikoff, S. n., Thakur, J. n., Kasinathan, S. n., Talbert, P. B.
2017; 82: 71–82
- **ChEC-seq kinetics discriminates transcription factor binding sites by DNA sequence and shape in vivo.** *Nature communications*
Zentner, G. E., Kasinathan, S. n., Xin, B. n., Rohs, R. n., Henikoff, S. n.
2015; 6: 8733
- **Mapping regulatory factors by immunoprecipitation from native chromatin.** *Current protocols in molecular biology*
Orsi, G. A., Kasinathan, S. n., Zentner, G. E., Henikoff, S. n., Ahmad, K. n.
2015; 110: 21.31.1–21.31.25
- **Acceleration of genetic gain in cattle by reduction of generation interval.** *Scientific reports*
Kasinathan, P. n., Wei, H. n., Xiang, T. n., Molina, J. A., Metzger, J. n., Broek, D. n., Kasinathan, S. n., Faber, D. C., Allan, M. F.
2015; 5: 8674
- **A unique chromatin complex occupies young #-satellite arrays of human centromeres.** *Science advances*
Henikoff, J. G., Thakur, J. n., Kasinathan, S. n., Henikoff, S. n.

2015; 1 (1)

- **5-Aza-CdR delivers a gene body blow.** *Cancer cell*

Kasinathan, S. n., Henikoff, S. n.

2014; 26 (4): 449–51

- **High-resolution mapping defines the cooperative architecture of Polycomb response elements.** *Genome research*

Orsi, G. A., Kasinathan, S. n., Hughes, K. T., Saminadin-Peter, S. n., Henikoff, S. n., Ahmad, K. n.

2014; 24 (5): 809–20

- **High-resolution mapping of transcription factor binding sites on native chromatin.** *Nature methods*

Kasinathan, S. n., Orsi, G. A., Zentner, G. E., Ahmad, K. n., Henikoff, S. n.

2014; 11 (2): 203–9

- **Cell-type-specific nuclei purification from whole animals for genome-wide expression and chromatin profiling.** *Genome research*

Steiner, F. A., Talbert, P. B., Kasinathan, S. n., Deal, R. B., Henikoff, S. n.

2012; 22 (4): 766–77

- **Nuclear alpha1-adrenergic receptors signal activated ERK localization to caveolae in adult cardiac myocytes.** *Circulation research*

Wright, C. D., Chen, Q., Baye, N. L., Huang, Y., Healy, C. L., Kasinathan, S., O'Connell, T. D.

2008; 103 (9): 992-1000