Sanjay R Srivatsan

Contact Information	sanjay@fredhutch.org sanjays@uw.edu sanjayrsrivatsan@gmail.com
Affiliations	Assistant Professor – Fred Hutchinson Cancer Center Basic Sciences Division Translational Data Science IRC Investigator – Brotman Baty Institute Investigator – Institute for Protein Design
Research Interests	Structure Function Relationships in Biological Systems Genomics, Developmental Biology, Protein Design

Education

University of Washington, Seattle, WA

Postdoc Department of Genome Sciences & Institute for Protein Design

Title: Screening protein designs with sequencing and spatial transcriptomics
Advisors: Jay Shendure, David Baker, and Cole Trapnell

PhD. Department of Genome Sciences- Completed June 2021

Title: Multiplex single-cell RNA sequencing for chemical genomics and spatial transcriptomics
Advisors: Cole Trapnell and Jay Shendure

M.D. Ph.D program

Thesis Lab: Cole Trapnell, Ph.D - Developing multiplexed single cell sequencing technologies

PhD Rotation: David Baker, Ph.D - Developing Methods for Structure Prediction of Cyclic Peptides

University of California Berkley, Berkeley, CA

B.S., Bioengineering- Cell and Tissue Engineering, May 2012

GPA: 3.91 *magna cum laude*

Preprints

1. Saunders L. M.*, **Srivatsan S. R.***, Duran, M., Dorrity M. W., Ewing, B., Linbo, T., Shendure, J., Raible, D. W., Moens, C. B., Kimelman, D., Trapnell, C. (2022). Deep molecular, cellular and temporal phenotyping of developmental perturbations at whole organism scale. ***bioRxiv***

2. Dorrity M. W., Saunders L. M., Duran, M., **Srivatsan S. R.**, Ewing, B., Queitsch, C., Shendure, J., Raible, D. W., Kimelman, D., Trapnell, C. (2022) Proteostasis governs differential temperature sensitivity across embryonic cell types. ***bioRxiv***

Publications

1. **Srivatsan S. R.***, Heidl, S.*, Pfau, B., Martin, B. K.*, Han, P. D., Zhong, W., van Raay, K., McDermot, E., Opsahl, J., Gamboa, L., Smith, N., Truong, M., Cho, S., Barrow, K. A., Rich, L. M., Stone, J., Wolf, C. R., McCulloch, D. J., Kim, A. E., Brandstetter, E., ... Starita, L. M. (2021). SwabExpress: An end-to-end protocol for extraction-free COVID-19 testing. *Clinical Chemistry*. (in press)

2. **Srivatsan S. R.***, Regier M. C.*, Barkan E., Packer J. S., Grosjean P., Saxton S., Ladd J.J, Spielmann M., Lampe P. D., Shendure J., Stevens K., Trapnell C. (2021) Embryo-scale, single-cell spatial transcriptomics. *Science*, 373 (6550), 111-117

3. **Srivatsan, S. R.***, McFaline-Figueroa, J. L.*, Ramani, V.*, Saunders, L., Cao, J., Packer, J., Pliner, H. A., Jackson, D. L., Daza, R. M., Christiansen, L., Zhang, F., Steemers, F., Shendure, J., & Trapnell, C. (2019). Massively multiplex chemical transcriptomics at single-cell resolution. *Science*, 367(6473), 45-51.

4. Hasle, N., Cooke, A., **Srivatsan, S. R.**, Huang, H., Stephany, J.J., Krieger, Z., Jackson, D., Tang, W., Pendyala, S., Monnat Jr, R.J. & Trapnell, C., 2020. , sorting to dissect cellular heterogeneity. *Molecular systems biology*, 16(6), p.e9442.

5. Cacchiarelli, D., Qiu, X., **Srivatsan, S. R.**, Manfredi, A., Ziller, M., Overbey, E., Grimaldi, A., Grimsby, J., Pokharel, P., Livak, K. J., Li, S., Meissner, A., Mikkelsen, T. S., Rinn, J. L., & Trapnell, C. (2018). Aligning Single-Cell Developmental and Reprogramming Trajectories Identifies Molecular Determinants of Myogenic Reprogramming Outcome. *Cell Systems*, 7(3), 258-268.e3.

6. Pliner, H. A., Packer, J. S., McFaline-Figueroa, J. L., Cusanovich, D. A., Daza, R. M., Aghamirzaie, D., **Srivatsan, S. R.**, Qiu, X., Jackson, D., Minkina, A., Adey, A. C., Steemers, F. J., Shendure, J., & Trapnell, C. (2018). Cicero Predicts cis-Regulatory DNA Interactions from Chromatin Accessibility Data. *Molecular Cell*, 71(5), 858-871.e8.

7. Wu, X., Zhang, Z., Schramm, C. A., Joyce, M. G., Do Kwon, Y., Zhou, T., Sheng, Z., Zhang, B., O'Dell, S., McKee, K., Georgiev, I. S., Chuang, G.-Y., Longo, N. S., Lynch, R. M., Saunders, K. O., Soto, C., **Srivatsan S. R.**, Yang, Y., Bailer, R. T., ... Young, A. (2015). Maturation and Diversity of the VRC01 Antibody Lineage over 15 Years of Chronic HIV-1 Infection. *Cell*, 161(3), 470-485.

8. **Srivatsan S. R.**, Patel, J. M., Bozeman, E. N., Imasuen, I. E., He, S., Daniels, D., & Selvaraj, P. (2013). Allogeneic tumor cell vaccines. *Human Vaccines & Immunotherapeutics*, 10(1), 52-63.

9. Zhou, T., Lynch, R. M., Chen, L., Acharya, P., Wu, X., Doria-Rose, N. A., Joyce, M. G., Lingwood, D., Soto, C., Bailer, R. T., Ernandes, M. J., Kong, R., Longo, N. S., Louder, M. K., McKee, K., O'Dell, S., Schmidt, S. D., Tran, L., Yang, Z., ... Kwong, P. D. (2015). Structural Repertoire of HIV-1 Neutralizing Antibodies Targeting the CD4 Supersite in 14 Donors. *Cell*, 161(6), 1280-1292.

10. McLellan, J. S., Chen, M., Joyce, M. G., Sastry, M., Stewart-Jones, G. B. E., Yang, Y., Zhang, B., Chen, L., **Srivatsan S. R.**,, Zheng, A., Zhou, T., Graepel, K. W., Kumar, A., Moin, S., Boyington, J. C., Chuang, G.-Y., Soto, C., Baxa, U., Bakker, A. Q., ... Kwong, P. D. (2013). Design of a Fusion Glycoprotein Vaccine for Respiratory Syncytial Virus. *Science*, 342(6158), 592-598.

11. Zhou, T., Zhu, J., Yang, Y., Gorman, J., Ofek, G., **Srivatsan S. R.**, Druz, A., Lees, C. R., Lu, G., Soto, C., Stuckey, J., Burton, D. R., Koff, W. C., Connors, M., & Kwon, P. D. (2014). Transplanting Supersites of HIV-1 Vulnerability. *PLoS ONE*, 9(7), e99881.

12. Georgiev, I. S., Doria-Rose, N. A., Zhou, T., Do Kwon, Y., Staupe, R. P., Moquin, S., Chuang, G.-Y., Louder, M. K., Schmidt, S. D., Altae-Tran, H. R., Bailer, R. T., McKee, K., Nason, M., O'Dell, S., Ofek, G., Pancera, M., **Srivatsan S. R.**, Shapiro, L., Connors, M., ... Kwong, P. D. (2013). Delineating Antibody Recognition in Polyclonal Sera from Patterns of HIV-1 Isolate Neutralization. *Science*, 340(6133), 751-756.

13. Liao, H. X., Lynch, R., Zhou, T., Gao, F., Alam, S. M., Boyd, S. D., Fire, A. Z., Roskin, K. M., Schramm, C. A., Zhang, Z., Zhu, J., Shapiro, L., Mullikin, J. C., Gnanakaran, S., Hraber, P., Wiehe, K., Kelsoe, G., Yang, G., ... Haynes, B. F. (2013). Co-evolution of a broadly neutralizing HIV-1 antibody and founder virus. Nature, 496(7446), 469-476.

14. Bozeman, E. N., **Srivatsan S. R.**, Mohammadi, H., Daniels, D., Shashidharamurthy, R., & Selvaraj, P. (2012). Ukrain, a plant derived semi-synthetic compound, exerts antitumor effects against murine and human breast cancer and induce protective antitumor immunity in mice. Experimental oncology, 34(4), 340-347.

Patents

1. Kwong, Peter D., Barney Graham, Jason McLellan, Jeffery Boyington, Ivelin S. Georgiev, Michael G. Joyce, Masaru Kanekiyo, Marie Pancera, Cinque Soto, Sanjay Srivatsan, and Baoshan Zhang. Prefusion RSV F Proteins and Their Use. Patent 20140271699. 18 Sept. 2014. Print.

Research & Work Experience

Postdoctoral Research July 2021 to Current
Spatial Transcriptomics and Protein Design
Advisors: Jay Shendure, David Baker and Cole Trapnell
Seattle, Washington

8VC Bio-IT Fellow March 2022 to June 2022
Research and diligence on emerging protein sequencing companies
Remote and part time
Mentor: David Yang and David Moskowitz

COVID testing research scientist March 2020 to January 2021
Seattle Coronavirus Action Network (SCAN)
Seattle, Washington
Advisor: Lea Starita, Ph.D

Post-Bac IRTA fellow June 2012 to May 2014
National Institutes of Health, NIAID
Bethesda, Maryland
Advisors: Tongqing Zhou, Ph.D and Peter D. Kwong, Ph.D

Undergraduate Research Assistant January 2012 to June 2012
Department of Radiology,
University of San Francisco
Advisor: Xiaojuan Li, Ph.D

Research Assistant May 2010 to Aug 2010
SURE Fellow May 2011 to Jan 2012
Department of Pathology,
Emory University
Supervisor: Periasamy Selvaraj, Ph.D

Research Assistant May 2010 to Aug 2010
Department of Molecular and Cell Biology,
UC Berkeley
Supervisors: Venice Chiueh, Ph.D and Steve G. Martin, Ph.D

Service	Outreach speaker NHGRI AGTD	July 2022
	COVID-19 Vaccination Volunteer, Seattle, WA	Mar, 2021 - Current
	NSURP Undergraduate Research Mentor	May 2020 - Jan 2021

Press	Student-led project improves COVID-19 testing efficiency
	Devising a Dry-Swab COVID-19 Testing Method
	Technique shows how individual cancer cells react to drugs
	Video highlighting sci-Plex technology