

## **2025 VRI Summer Internship Program:**

Vitalant Research Institute (VRI) in San Francisco, an affiliate of the University of California, San Francisco, has openings for ***full-time 8-week paid summer internship positions beginning Monday, June 16 through Friday, August 08, 2025.***

Selected students are eligible for a \$4,000 stipend for the successful completion of the 8-week program. Students will participate in seminars, presentations, and institutional events.

### **Requirements:**

Candidates are required to be enrolled in an educational institution (must be matriculated in semester before or after summer 2025, work in a team environment, set priorities, and devote full time to this training experience. Candidates must also have effective oral and written communication skills and be self-motivated with good organizational skills.

**Application Deadline:** Due Friday April 11, 2025

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- [CLICK HERE](#) to fill out the 2025 Summer Internship Application.
  - [CLICK HERE](#) to email your application **with a letter of interest** and copy of your college transcript (*optional*):  
**To Attention: F. Assenzio**, Human Resources.
  - **If you choose to send your transcripts, unofficial copies of transcripts are acceptable.**
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***The Summer Internship Program at VRI*** provides undergraduate and master's students the opportunity to participate in research in the areas of transfusion medicine and cellular therapy through pairing with an investigator/mentor in one of the following research areas:

1. **A summer internship is available in the Dr. Norris Immunology Laboratory, located in San Francisco, CA.** His laboratory focuses on how the human immune system responds to viral infections and blood transfusion. One area of particular focus is how extracellular vesicles (EVs) transmit signals between cells. The summer project will focus on engineering cells to alter the phenotype of EVs released from the producer cells. A second, related project will involve developing a system to combine EVs from a single producer cell with target cells inside engineered nanovials. Techniques that will be used will include CRISPR-Cas9 gene editing and flow cytometry. [Vitalant Research Institute - Philip J. Norris, MD.](#)
2. **A summer internship is available in the San Francisco laboratory of Dr. Satish Pillai, PhD, to investigate the molecular biology and pathogenesis of HIV/AIDS from an evolutionary perspective.** Ongoing projects in our lab include studies of host and viral factors involved in the maintenance of HIV latency, which is the principal obstacle to a cure for HIV infection. Projects will involve learning cell culture, flow cytometry, next-generation sequencing, and gene editing techniques to study the virus-host interface. [Vitalant Research Institute - Satish K. Pillai, Ph.D.](#)

3. **A summer internship is available in the cell biology laboratory of Dr. Marcus Muench, located in San Francisco, CA.** Will use cells and progenitors isolated from human tissues. The project will involve testing the differentiation of these cells in various in vitro and in vivo systems. The internship will offer the opportunity to gain experience in basic laboratory skills in cell culture, flow cytometry, and work with xenogeneic transplant models. Basic concepts in stem cell biology, hematology, and developmental biology will be taught. Applicants must be willing to work with human pathology specimens, transplant models and be willing to handle potentially infectious agents. [Vitalant Research Institute - Cell Therapy.](#)
4. **A summer internship is available in the laboratory of Dr. Rachael Jackman, located in San Francisco, CA.** Our lab studies the immunology of blood transfusion and uses animal models to evaluate immune responses to transfusion such as alloimmunization and rejection. Interns will have the opportunity to gain experience in mouse handling, flow cytometry, and other lab skills along with basic concepts in immunology. [Vitalant Research Institute - Rachael P. Jackman, Ph.D.](#)
5. **A summer internship is available in the laboratory of Dr. Graham Simmons, PhD, located in San Francisco, CA.** The project will involve screening of compounds to identify novel protease inhibitors of Ebola virus entry. Panels of wild-type and mutant Ebola glycoproteins will be pseudotyped onto lentiviral vectors and used to screen libraries of compounds. Hits will be used to identify unknown proteases required to Ebola virus entry, which will be confirmed via gene knockout. The internship will offer the opportunity to gain experience in basic laboratory skills in molecular biology, cell culture, viral vectors, and gene editing. [Vitalant Research Institute – Graham Simmons, PhD.](#)
6. **A summer internship is available in the laboratory of Dr. Tamir Kanias, PhD, located in Denver, CO.** Effects of blood donor characteristics and genetic polymorphisms on red blood cell function and survival in cold storage. This internship will support ongoing studies aimed at understanding how genetic polymorphisms and biological factors (e.g., age, sex, body mass index) contribute to variation in the quality of red blood cell products for transfusion. The ultimate goal is to advance Precision Transfusion Medicine by identifying common and rare mutations in blood donors that impact transfusion effectiveness in patients. The intern will learn about clinical study design, donor consenting, and how to perform red blood cell hematological and functional assays including blood oximetry testing, hemolysis in response to oxidative or osmotic stress, and ektacytometry to measure membrane deformability. The intern will also learn about analytical methods for building this new database. [Vitalant Research Institute – Tamir Kanias, PhD.](#)
7. **A summer internship is available in the Epidemiology Department under Hasan Sulaeman, Staff Scientist II, located in San Francisco, CA.**
  - ~ **Freezerworks API Integration:** An Application Programming Interface (API) allows for streamlining and automation of processes by sidestepping the need for user interaction on the user interface of an application. As the web client share technical requirements with the REST API, supporting the API does not require any more effort on IT's end and is a low hanging fruit to expand our capacity. A summer intern for the project would be using the REST API documentation, along with open-source programming languages, to program the automation or streamlining of predefined processes (e.g., test result accessioning, querying aliquot volumes, etc.). This project is a low hanging fruit that doesn't require a lot of time for dedicated programmer to accomplish and it can be folded in to both current and future projects.
  - ~ **TTIMS Data Pipeline Harmonization:** The many aspects of Transfusion Transmissible Infections Monitoring

System (TTIMS) data processes are disjointed at the moment, with processes on the survey data, CCRs, and the SMS (study management system) running separately. Using what's been developed for both TTIMS and RDC study as a jumping off point, this project aims to centralize and automate the flow of data for the TTIMS study using abstracted programming so that it can be used for future projects. [Vitalant Research Institute – Epidemiology Department](#).

**2024 Application Deadline:** Friday, April 11, 2025

**Notification Deadline Provided to Applicants by Email:** May 09, 2025

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