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2026 VRI Summer Internship Program:

Vitalant Research Institute (VRI) in San Francisco, California, in affiliation with the University of California, San Francisco, and in Denver, Colorado, in affiliation with the University of Colorado Anschutz Medical Campus, has openings for several ***full-time 8-week paid summer internship positions beginning Monday, June 15 through Friday, August 07, 2026***.

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 2026), 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 10, 2026

- **CLICK HERE** to complete your 2026 Summer Internship Application. Please include your
    - **Resume**
    - **Letter of Interest**
    - **List of Three References** (*who are not relatives*)
    - **School/College Transcripts** (*unofficial copies of transcripts are acceptable)*

The Summer Internship Program at VRI provides undergraduate and master's students with 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**. **A summer internship is available in the cell biology laboratory of Dr. Marcus Muench, located in San Francisco, CA**. New cell-based products for transfusion will be investigated using in vitro and in vivo methods. The internship will offer the opportunity to gain experience in basic laboratory skills in cell culture, flow cytometry, and work with transplant models. Basic concepts in stem cell biology, hematology, and developmental biology will be taught. Applicants must be willing to work with human 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.** Join our virology group investigating how human blood components inhibit alphavirus (for example Mayaro virus) infection. Interns will assist with viral inhibition assays, RNA extraction and sequencing, and biochemical fractionation of blood-derived factors. Gain experience with tissue-culture, viral reporter assays, molecular biology and data analysis. Ideal for students interested in virology, immunology, or emerging pathogens research. 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 Transunion 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. **Two summer internships are available in the laboratory of Dr. Kimbery A. Thomas, located in Denver, CO.** Vitalant Research Institute – Kimbery A. Thomas, Ph.D.

   ~ The Thomas Lab is seeking a summer intern interested in studying platelet:endothelial cell interactions: Platelets play an important role in maintaining vascular homeostasis and endothelial barrier function. In certain diseases, patients can become thrombocytopenic – have a very low number of circulating platelets – which causes endothelial barrier breakdown and results in mucocutaneous bleeding. To stop this bleeding, patients are given platelet transfusions to increase the number of platelets and restore the endothelial cell barrier. Traditionally, the platelet products used for transfusion can be stored in the blood bank for up to 5 days at room temperature before they can no longer be used for transfusion. However, there is a critical shortage of platelet products due to this short shelf life and decreased numbers of platelet donors. As such, methods to extend the shelf life of platelets, such as

refrigeration, are an active area of transfusion medicine research. Currently, it is unknown how refrigeration of platelets will affect their ability to maintain vascular hemostasis and endothelial barrier function. This is the basis for the Thomas Lab 2026 Summer Internship project. During this internship, you will become well-versed in conceptualizing, designing, and executing experiments to assess how platelets alter endothelial cell function. This involves laboratory techniques set in bio-safety level II (BSL-2) conditions including, but not limited to, use of biosafety cabinet, cell culture, flow cytometry, cellular assays, RNA extraction and qPCR, and fluorescent microscopy. Your training will also include data analysis, visualization, documentation using an electronic notebook, and weekly participation in lab meetings. You will also gain experience presenting your research in both small and large group settings. Please contact Dr. Thomas with questions - KThomas@vitalant.org.

~ The Thomas Lab is seeking a summer intern interested in studying platelet mitochondrial function: While platelets do not have a nucleus, they do have 5-8 mitochondria each, and these mitochondria are important for regulating platelet hemostatic activity, i.e., their ability to for clots. Importantly, how platelets are stored before transfusion affects their mitochondrial activity, and therefore, their ability to work when transfused into actively bleeding patients. Our lab has identified that altering the redox environment of storage solution of platelets affects hemostatic activity, potentially through altering mitochondrial function. This is the basis for the Thomas Lab 2026 Summer Internship project. During this internship, you will become well-versed in conceptualizing, designing, and executing experiments to assess how platelet mitochondrial function in the context of hemostasis. This involves laboratory techniques set in bio-safety level II (BSL-2) conditions including, but not limited to, use of biosafety cabinet, cell culture, flow cytometry, cellular assays, use of the Seahorse platform, Western blots, and microfluidic assays to monitor hemostatic activity. Your training will also include data analysis, visualization, documentation using an electronic notebook, and weekly participation in lab meetings. You will also gain experience presenting your research in both small and large group settings. Please contact Dr. Thomas with questions - KThomas@vitalant.org.

8. **A summer internship is available to assist Dr. Shana Hughes with several projects focused on understanding blood donation as a bio-sociocultural process.** Shana is an applied medical anthropologist, currently engaged in formative qualitative and mixed methods research investigating blood donation-related behavior and perceptions. Responsibilities will vary depending on intern's interests and background (ideally pursuing master's degree in a social science discipline but advanced undergraduate and other disciplines also considered) but may include assisting with literature review and quantitative and/or qualitative data analysis. Vitalant Research Institute – Shana D. Hughes, PhD, MPH

2026 Application Deadline: Friday, April 10, 2026

Notification Deadline Provided to Applicants by Email: May 08, 2026

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