Intro to Vitalant Research Institute (VRI)

Leonard Chavez, Ph.D.
Staff Scientist, VRI
UCSF CHIC K12 Scholar
My Time at UCSF

2004
UCSF Summer Research Training Program: Lab of Dr. Donald Ganem

2007
Accepted into UCSF Biomedical Sciences (BMS) program

2008
Joined lab of Dr. Eric Verdin @ Gladstone Institute of Virology and Immunology

2014
Joined lab of Satish Pillai at VRI as postdoc

2015
CFAR Mentee: Mentored by Dr. Steve Deeks

2017
Gilead HIV Cure Mentored Scientist Award

2018
Promoted to Staff Scientist

2019
UCSF CHIC K12 Scholar
An introduction to...

Vitalant Research Institute
(The Institute Formerly Known As BSRI)
Why the name change all of a sudden??

Our parent company (Blood Systems) grew too big and acquired too many blood banks with different names...
With 127 donation locations from coast to coast, Vitalant is near you. Click an icon below for more information or zoom in.
What is Vitalant Research Institute (VRI)?

Established: 1959 (Scientific Services department - Irwin Memorial Blood Bank)

Number of Employees: 70

Facilities
The Research Institute is housed within Blood Centers of the Pacific in San Francisco, CA. Our Research Institute has state-of-the-art equipment to support research related to blood and blood product safety in the areas of molecular biology, immunology, virology, tissue culture, cell processing and epidemiology. Staff have 9000 sq. ft. of labs (including a biosafety level 3 lab), and a 2200 sq. ft. freezer room with capacity to store more than one million specimens.

Collaborations
University of California, San Francisco; The Clinical & Translational Science Institute (CTSI) at UCSF; University of California, Davis; UCSF Benioff Children's Hospital, Oakland; US Department of Veterans Affairs; The American Red Cross; Public Health England; Fundação Faculdade de Medicina BRAZIL; Duke University; South African National Blood Service; Emory University; and the University of Georgia

Industry Collaborations
Cerus; Roche; Grifols; Ortho-Clinical Diagnostics, Inc.; Gen-Probe, Inc.; Abbott Laboratories; TerumoBCT; Immunetics; Integral Molecular

Grantors
National Institutes of Health (NIH); US Food and Drug Administration (FDA); US Army Medical Research and Materiel Command (USAMRMC); Blood Systems

Research Areas
- Epidemiology/Donor Behavior
- Molecular Virology
- Molecular Transfusion Medicine
- Immunology
- Repository and Testing Services
- Molecular Diagnostics
- Cell Therapy
What do we do at VRI?

OUR MISSION

The Vitalant Research Institute (VRI) is dedicated to advancing blood safety world-wide through scientific research, education and the promotion of evidence-based policies.

OUR VISION

VRI, an integral part of Vitalant, is the premier transfusion medicine research institute in the US focused on scientific and policy advances relevant to transfusion therapy and blood product availability, with particular focus on mechanisms underlying and prevention of infectious and immunological complications of transfusions. VRI contributes to and engages other Vitalant divisions in research, policy development and application of new practices.
Key moments in VRI history

1941

IRWIN MEMORIAL BLOOD BANK
FOUNDED
The first non-profit community blood bank in the US was founded in June, 1941

1959

SCIENTIFIC SERVICES OF IRWIN MEMORIAL ESTABLISHED
In 1959, Irwin Memorial Blood Bank established its research program, laying the foundation for BSRI.

1983

TRANSFUSION-TRANSMITTED HIV
First case of transfusion-transmitted AIDS to a child reported by investigators at BSRI and UCSF.
Key moments in VRI history

1989

NHLBI REDS PROGRAM INITIATED

The Retrovirus Epidemiology Donor Study (REDS) was created to improve transfusion safety.

2004

BLOOD SYSTEMS RESEARCH INSTITUTE CREATED

BSRI formally founded from the Scientific Services of Blood Centers of the Pacific.

2015

SCIENTISTS IDENTIFY EFFECTIVE AND NOVEL MECHANISMS TO BLOCK CHIKUNGUNYA VIRUS

Scientists looking at the antiviral mechanisms of two previously identified human monoclonal antibodies have found they potentially inhibit chikungunya virus (CHIKV) at multiple stages of infection.
Key moments in VRI history

2015

US FDA LIFTS LIFETIME BAN ON MSM BLOOD DONATION
BSRI research supports safety of limited deferral period for men who have sex with men (MSM)

AMFAR ESTABLISHES SAN FRANCISCO-BASED INSTITUTE FOR HIV CURE RESEARCH
amfAR, The Foundation for AIDS Research, today announced the establishment of the amfAR Institute for HIV Cure Research, an innovative collaborative enterprise based at the University of California, San Francisco.
Key moments in VRI history

BLOOD SYSTEMS BECOMES VITALANT
On September 24, 2018, BSRI announced our new name: Vitalant Research Institute.

BSRI- DENVER CAMPUS WELCOMES DR. LARRY J. DUMONT AS SENIOR INVESTIGATOR AND ASSOCIATE DIRECTOR
Dr. Larry J. Dumont brings to BSRI-Denver the important program to develop licensable platelet cryopreservation techniques under the sponsorship of the United States Army. This program, currently in Phase 1 clinical trials, is expected to extend the 5-day shelf life of platelets to more than 2 years.

BLOOD PROCESSING METHODS AFFECT MICROPARTICLES AND MTDNA LINKED TO BLOOD TRANSFUSION REACTIONS
Scientists from BloodSystems Research Institute in San Francisco, California, and Canadian Blood Services' Centre for Innovation lab in Edmonton, Alberta, report that specific red blood cell manufacturing methods may be less damaging to cells than others.
The impact of VRI / transfusion medicine research

Emerging Infectious Disease Threats

Risk per Unit

- HCV
- HBV
- HIV


- Revised Donor Deferral Criteria
- HBsAg Screening
- HIV Ab Screening
- HCV Ab Screening
- p24 Ag Testing
- HCV and HIV NAT
- WNV NAT
- HBV NAT

NANB Hepatitis Surrogate Testing
vCJD Deferral Criteria
T cruzi Ab Screening
VRI is highly focused on education and training

The Vitalant Research Institute has since inception, been firmly committed to the advanced training of young scientists in the areas of transfusion medicine, infectious disease, immunology and epidemiology.
Transfusion Medicine/Blood Banking Fellowship

The Herbert Perkins Transfusion Medicine Fellowship is an ACGME accredited program offered jointly by University of California, San Francisco (UCSF), Blood Centers of the Pacific (BCP), and Blood Systems Research Institute (BSRI). The fellow gains experience in all aspects of blood banking and transfusion medicine by spending 6 months at one of this country's foremost university medical centers and 4 months in one of its premier blood banks. Additional rotations provide training opportunities in therapeutic apheresis.

The UCSF rotation offers the experience of an academic multi-hospital unified transfusion service providing care to a wide variety of pediatric and adult patients and offering a wealth of complex services. UCSF has a very active hematopoietic stem cell transplant program and training in Cellular therapy is also provided during the 6 months fellows spend at UCSF hospitals.

BCP distributes approximately 144,000 RBC, 46,000 platelet, and 45,000 plasma units each year for hospitals in a large segment of northern California and has an AABB accredited immunohematology reference laboratory. Fellows rotate through all blood center departments, assuming increasing responsibility as they learn. Instruction is through tutorials, conferences, department meetings, and assigned reading. Fellows also have a unique opportunity to collaborate with investigators at BSRI, one of the country’s foremost research laboratories in transfusion medicine.

Requirements

Applicants must be eligible for California medical licensure.
We train South African professionals in transfusion medicine and hematology to be leaders in blood safety and HIV-related blood disease treatment.

This 5-year training program in HIV-related transfusion medicine and hematology research trains blood bankers and hematologists to perform high-quality HIV research to address relevant research questions in South Africa. Training approaches are tailored to promising candidates at various levels on the research career ladder. The training and research opportunities range from short courses to PhD and postdoctoral fellowships, mini-grants to mentorships.

The HIV-related Transfusion Medicine and Hematology Research training program is open to South African professionals with leadership potential who are already working in transfusion medicine or hematology. Our overarching goal is to develop human research capacity to improve blood safety and the treatment of HIV-related hematologic diseases in South Africa.

Related Links

Responsible conduct of research
Assure the highest standards of ethics in research

Mini grants
Gain funding for your own research project
VRI Investigators

Eric Delwart, PhD  Rachael Jackman, PhD  Tamir Kanias, PhD
Shannon Kelly, MD  Edward L. Murphy, Jr., MD, MPH  Satish K. Pillai, PhD
Nareg Roubinian, MD, MPHTM  Graham Simmons, PhD
VRI Cores

Bioinformatics
Directed by Xutao Deng

Cell Therapy
Directed by Marcus Muench

Epidemiology
Directed by Roberta Bruhn and Anne Guiltinan

Immunology
Directed by Sheila Keating

Molecular Transfusion
Directed by Sonia Bakkour

Viral Reference Lab and Repository
Directed by Mars Stone
Thank you