

# From Bench to Bedside

## Inside the New Stephen C. Peiper and Zi-Xuan Wang Institute for Vaccine Science and Policy

In 2020, the Stephen C. Peiper and Zi-Xuan Wang Institute for Vaccine Science and Policy was launched following a generous \$1.5 million investment by Drs. Peiper and Wang and the Saint Louis University School of Medicine. This new center of excellence, led by Daniel Hoft, M.D., Ph.D., sits at the intersection of basic and clinical vaccinology, public health, bioethics, law and diversity, equity, and inclusion.



### Collaborative Strengths

The Institute is composed of nine collaborative strengths and more than 35 faculty from across the University, including faculty from SLU's School of Medicine, College of Arts and Sciences, College for Public Health and Social Justice and School of Law. Building on the strong foundation laid by the Center for Vaccine Development, the new Institute will tackle big questions surrounding vaccinology that cannot typically be addressed by a single academic discipline, from equitable vaccine accessibility to intellectual property issues.

### Preclinical, Translational, and Clinical Vaccinology

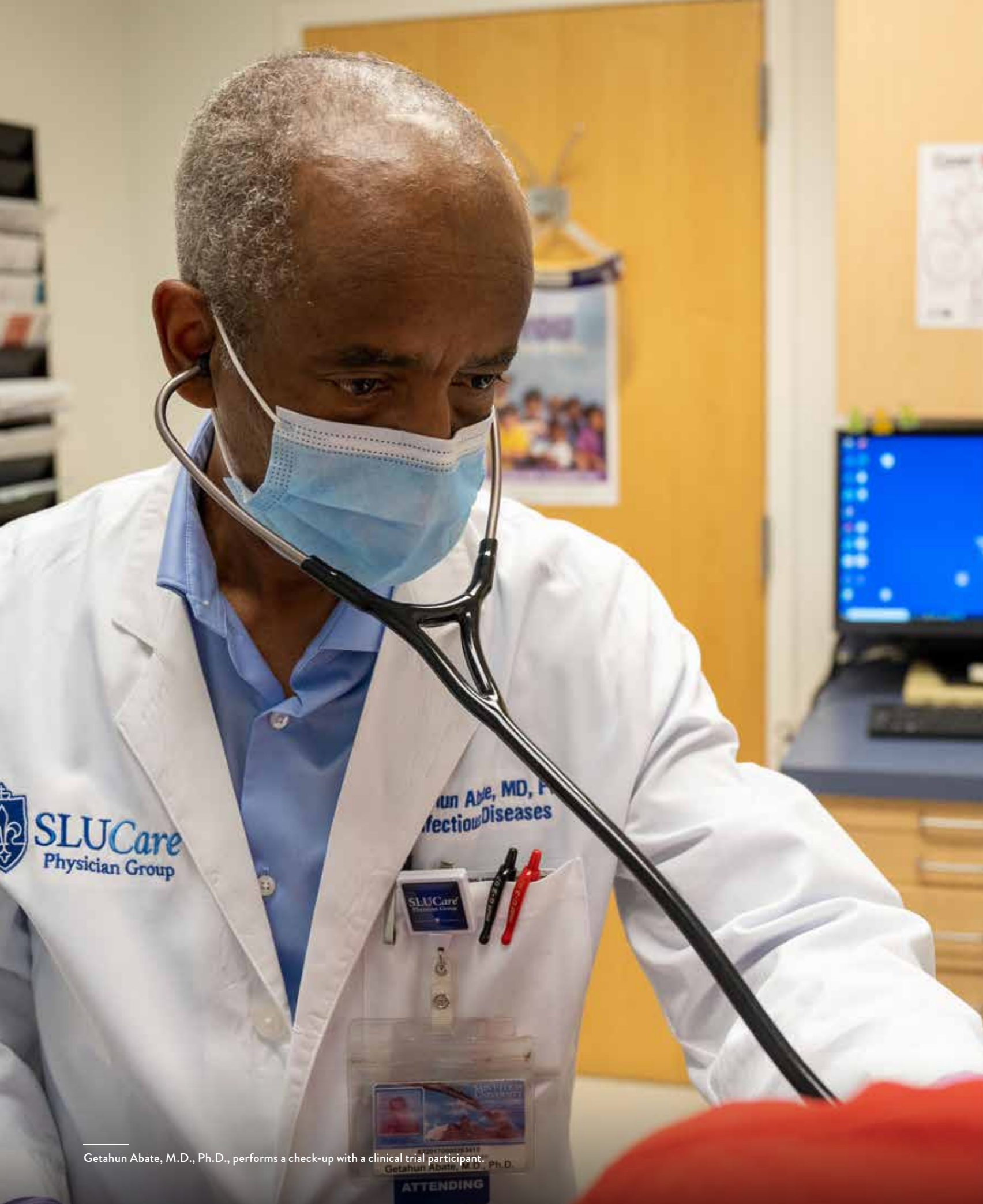
*Led By: Daniel Hoft, M.D., Ph.D.  
Professor, Infectious Diseases*

As leader of the Preclinical, Translational, and Clinical Vaccinology collaborative strength, Hoft will connect the preclinical researchers with clinical samples and serve as both a mentor and a facilitator of clinical trials at the Center for Vaccine Development. His expertise and leadership will help investigators move their work to the next stage of vaccine research.

### Basic Immunology

*Led By: Richard DiPaolo, Ph.D.  
Professor and Interim Chairman in the  
Department of Molecular Microbiology  
and Immunology*

DiPaolo's research program includes studying the regulation of inflammatory diseases, autoimmunity, and cancer, as well as immune responses to infections and vaccinations. As leader of the Institute's Basic Immunology collaborative strength, he will promote translational applications of basic vaccine science discoveries.



Getahun Abate, M.D., Ph.D., performs a check-up with a clinical trial participant.

Getahun Abate, M.D., Ph.D.  
ATTENDING

## Computational Biology

*Led By: Tae Hyuk (Ted) Ahn, Ph.D.  
Associate Professor, Computer Science*

Ahn is also a core faculty member in the graduate program of Bioinformatics and Computational Biology. As leader of the Institute's Computational Biology unit, Ahn will use his interdisciplinary expertise in bioinformatics, biomedical informatics, high-performance computing, and various computational sciences, including machine learning and deep learning, to support researchers in developing analytic methods to interpret biological data.

## Omics

*Led By: James Edwards, Ph.D.  
Professor, Chemistry*

*David Ford, Ph.D.  
Professor, Biochemistry and  
Molecular Biology*

Edwards is a bioanalytical chemist widely regarded as an expert on the use of mass spectrometry methods for metabolomic research. Ford is a physiological biochemist with a research focus on lipid metabolites as mediators and biomarkers of inflammation. Together, they will build system vaccinology at SLU and enable members of the Institute to probe scientific questions with multi-platform omic strategies, ultimately informing new treatments and preventative measures.

## Data Science and Epidemiology

*Led By: Timothy Wiemken, Ph.D.  
Adjunct Professor, Division of Infectious  
Diseases, Allergy, and Immunology*

Wiemken will support the Institute's researchers in managing and analyzing large datasets. Drawing on his expertise in epidemiology, he will also work with faculty members to tackle complex questions regarding vaccines that bridge multiple disciplines within the Institute.

## Social and Behavioral Science

*Led By: Ricardo Wray, Ph.D.  
Professor, Behavioral Science and  
Health Education*

Wray's research primarily seeks to understand how communication processes intersect with institutional, social, and community-level phenomena affecting population health in minority communities. His leadership at the Institute will help shape conceptual approaches and research to explore programmatic and policy questions of interest to the Institute.

## Diversity, Equity, and Inclusion

*Led By: Daniel Blash, Ph.D., LCP  
Vice Dean of Diversity, Equity, and Inclusion  
Chief Diversity Officer, School of Medicine*

*Esmeralda Aharon, M.A.  
Program Director, School of Medicine*

Blash is an experienced educator with a track record of advocacy in diversity and inclusion. His doctoral research focused on the role of religion and spirituality among underrepresented minorities in the academic environment. Aharon is the Program Director of Staff and Community Engagement for the Office of Diversity, Equity, and Inclusion. In this role, she collaborates with hiring managers to attract and retain underrepresented individuals. Together, Blash and Aharon will help promote interactions between the Institute and the St. Louis community to develop trusting, long-term relationships with underrepresented populations.

## Bioethics

*Led By: Jason Eberl, Ph.D.  
Professor, Albert Gnaegi Center for Health  
Care Ethics*

Eberl's research interests pertain to the philosophy of human nature and its application to issues at the margins of life, and ethical issues related to end-of-life care, genetics, and health care

allocation. As leader of the Institute's Bioethics collaborative strength, he will apply his expertise to address ethical issues related to vaccine research and development, allocation policies, and public education.

## Law and Policy

*Led By: Ana Santos Rutschman, S.J.D.  
Assistant Professor, Center for Health  
Law Studies*

Rutschman is an assistant professor at Saint Louis University School of Law and was named a Health Law Scholar by the American Society of Law, Medicine & Ethics for her work on legal and policy issues related to vaccine R&D, allocation, and distribution. In her role with the Institute, she will work toward improving dialogue and understanding between the academic disciplines that naturally intersect in vaccine science and policy.

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## Recent Achievements

The Institute recently established a board of Executive Sponsors and identified 11 key leaders who will guide the research direction of the Institute. In addition, the Institute has secured \$50,000 for pilot funding that will be awarded annually to investigators who engage in interdisciplinary research that bridges two or more of the Institute's collaborative strengths and the Institute's goal that novel questions be pursued and innovative approaches applied.



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*Times like this are humbling. To feel like the work you've done your whole life can do this much good for the world. I'm privileged to be at SLU at this time in history.*

**Daniel Hoft**  
M.D., Ph.D., Director