

Publications of the Week

Distinct Sensitivities to SARS-CoV-2 Variants in Vaccinated Humans and Mice

First Author: Alexandra Walls (pictured) | Senior Author: David Veelsler
Cell Reports | UW and Howard Hughes Medical Institute



The authors report that vaccinated BALB/c mice do not recapitulate faithfully the breadth and potency of neutralizing antibody responses elicited by various vaccine platforms against variants of concern, compared with non-human primates or humans, suggesting caution should be exercised when interpreting data obtained with this animal model. [Abstract](#)

IgM Antibodies Derived from Memory B Cells Are Potent Cross-Variant Neutralizers of SARS-CoV-2

First Author: Malika Hale | Senior Author: David Rawlings (pictured)
Journal of Experimental Medicine | Seattle Children's and UW



Humoral immunity to SARS-CoV-2 can be supplemented with polyclonal sera from convalescent donors or an engineered monoclonal antibody (mAb) product. While pentameric IgM antibodies are responsible for much of convalescent sera's neutralizing capacity, all available mAbs are based on the monomeric IgG antibody subtype. The authors show that IgM mAbs derived from immune memory B cell receptors are potent neutralizers of SARS-CoV-2. [Abstract](#)

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Awards

Byers Lab Awarded \$3.1M to Develop Self-Replicating mRNA Vaccine for Staph Infection

UW Department of Bioengineering



Researchers at UW are working to develop an injectable biodegradable hydrogel for the sustained release of self-replicating mRNA vaccines. The team's vaccine delivery system will release nanometer-sized particles that target multiple *Staphylococcus aureus* genes with one injection, rather than as a series of shots. Dr. James Byers (pictured), Professor of UW Bioengineering, recently received a \$3.1 million R01 grant from the National Institute of Allergy and Infectious Diseases at the National Institutes of Health to lead the project. [Read More](#)

UW Biosensor Research Wins Prestigious Innovation Honor

UW Department of Bioengineering



Dr. Andre Berndt (pictured), Assistant Professor in the Department of Bioengineering, has received the 2022 McKnight Technological Innovations in Neuroscience Award for work that "fundamentally changes the way neuroscience is conducted." His team was recognized for developing a rapid way to identify and optimize molecular tools called biosensors, which have been a major advance in the study of brain function. [Read More](#)

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Local News

Design of Membrane-Traversing Peptides Leads to New Spinout

Institute for Protein Design (IPD)



Researchers at IPD have discovered how to create peptides that slip through membranes and enter cells. "We know that peptides can be excellent medicines, but a big problem is that they don't get into cells. There are a lot of great drug targets inside our cells, and if we can get in there, that space opens up," said lead author and IPD faculty member Dr. Gaurav Bhardwaj (pictured). [Read More](#)

Gene-Edited Malaria Vaccine Warrants More Study

UW Medicine



Findings from a preliminary human study of an experimental, genetically attenuated malaria parasite immunization show this vaccine warrants further exploration. The study's proof-of-concept results were reported in *Science Translational Medicine*. The research was headed by investigators at the UW School of Medicine, Seattle Children's, and Kaiser Permanente Washington Health Research Institute. [Read More](#)

What Viruses Can Teach Us about Ourselves

Fred Hutch



Dr. Daphne Avgousti (pictured) studies viruses and the ways that they hijack fundamental structures in our cells. She focuses on how viral proteins take advantage of our DNA packaging system that enables all six feet of our DNA to fit into a single cell. Her team recently reported in a pre-print posted to *bioRxiv* that herpes simplex virus co-opts an infection-induced change in host chromatin to get out of infected cells, the first step to infecting other cells. [Read More](#)

BBI's Dr. Albert Folch: Combining Passions of Microfluidics, Science, and Art to Drive the Future of Precision Medicine

Brotman Bay Institute (BBI)



BBI's Dr. Albert Folch (pictured) has three passions in life: microfluidics, art, and soccer. It might be difficult to combine all three in one book, but in his latest manuscript, he deftly integrates the first two. "Hidden in Plain Sight: The History, Science, and Engineering of Microfluidic Technology," was recently published by the MIT Press. It explores the fascinating intersection of liquid and science and the ways microfluidics are incorporated into everyday activities. [Read More](#)

'Treg' Startup Sonoma Expands with Plans for Manufacturing Plant

Industry Dive



Preclinical biotechnology company Sonoma Biotherapeutics has announced plans to build an 83,000-square-foot manufacturing and research center on Seattle's waterfront. The new facility will be used to develop and produce Sonoma's experimental medicines based on regulatory T cells (Tregs) with plans to include capabilities for cell selection, genetic modification, and automated manufacturing. [Read More](#)

23 Interns, Four Coffee Machines, One Summer: Through the Eyes of This Year's Cohort of Budding Science Professionals

Allen Institute



The Allen Institute welcomed summer interns on-site for the first time since 2019. To Therese Pacio (pictured), a modeling intern at the Allen Institute for Cell Science, the gender diversity in the Allen Institute intern cohort is powerful. Sixteen out of this year's 23 interns are women, and Pacio said she feels a sense of support and inclusivity with their shared experience as women in STEM. [Read More](#)

With \$50M, Vilya's Peptides Aim to Transcend Cells' Lipid Membrane

BioSpace



Vilya broke onto the BioForest biotech scene Monday with \$50 million in Series A proceeds. The company will use cutting-edge computational techniques to develop innovative drugs for difficult-to-treat diseases. Vilya's proprietary platform leverages sophisticated machine learning algorithms to design therapeutic peptides that can cross the cell membrane. [Read More](#)

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Interesting Articles

OSTP Issues Guidance to Make Federally Funded Research Freely Available Without Delay

The White House



The White House Office of Science and Technology Policy (OSTP) recently updated US policy guidance to make the results of taxpayer-supported research immediately available to the American public at no cost. This policy will likely yield significant benefits on a number of key priorities for the American people, from environmental justice to cancer breakthroughs, and from game-changing clean energy technologies to protecting civil liberties in an automated world. [Read More](#)

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Upcoming Events in Seattle

- September 7 8:30 AM **2022 From the Laboratory to Leadership – Virtual Fall Program** Online
- September 9 - 10 9:00 AM **5th Symposium on Cancer Survivorship for Clinicians** Bell Harbor International Conference Center
- September 10 10:30 AM **Sickle Cell 5K Walk** Seward Park
- September 14 10:30 AM **Distinguished Seminar Series – Corey Hartwell** Online
- September 14 6:00 PM **Meghan O'Rourke with Jim Heath** Online

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Science Jobs in Seattle

- Clinical Research Coordinator I**
Seattle Children's
- Lab Assistant**
Adaptive Biotechnologies
- Research Technician I-II**
Fred Hutch
- Postdoctoral Fellow, Gene Regulatory Networks**
University of Washington
- Senior Automation Engineer, Assay Automation, Cell Therapy**
Bristol Myers Squibb

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