

Publications of the Week

Convergent Regulation of Ca_v1.2 Channels by Direct Phosphorylation and by the Small GTPase Rad in the Cardiac Fight-Or-Flight Response

First Author: Liam Hovey | Senior Author: William Cantrell (pictured)
PNAS | UW



The L-type calcium currents conducted by the cardiac Ca_v1.2 calcium channel initiate excitation-contraction coupling and serve as a key regulator of heart rate, rhythm, and force of contraction at rest and in the fight-or-flight response. The authors reveal that the proteolytically processed form of Ca_v1.2 undergoes convergent regulation by direct phosphorylation of the carboxyl-terminal domain and by phosphorylation of Ras associated with diabetes. [Abstract](#)

Malaria Parasites Utilize Two Essential Plasma Membrane Fusogens for Gamete Fertilization

First Author: Sudhir Kumar | Senior Author: Stefan Kappe (pictured)
Cellular and Molecular Life Sciences | Seattle Children's Research Institute and UW



Cell fusion of female and male gametes is the climax of sexual reproduction. In many organisms, the Hapsless 2 (HAP2) family of proteins play a critical role in gamete fusion. The authors establish nonredundant essential roles for PHAP2 and PHAP2p in mediating gamete fusion in *Plasmodium* and suggest avenues in the design of novel strategies to prevent malaria parasite transmission from humans to mosquitoes. [Abstract](#)

Development of a Three-Dimensional Multi-Modal Perfusion-Thermal Electrode System for Complete Tumor Eradication

First Author: Hui Zheng | Senior Author: Xiaoming Yang (pictured)
Cancers | UW and Overlake Medical Center and Incyte Diagnostics



Residual viable tumor cells after ablation at the tumor periphery serve as the source for tumor recurrence, leading to treatment failure. The authors develop a novel three-dimensional multi-modal perfusion-thermal electrode system completely eradicating medium-to-large malignancies. Both optical imaging and fluorescent microscopy confirmed successful peritumoral indocyanine green distribution/deposition with increased heat shock protein 70 expression. [Abstract](#)

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Awards

UW President Ana Mari Cauce Elected to National Academy of Medicine for 'Exemplary, Visionary Leadership' and Research

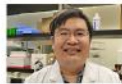
UW



University of Washington President Dr. Ana Mari Cauce (pictured) is among the new members elected to the National Academy of Medicine. The Academy recognizes those who have demonstrated outstanding professional achievement in medicine and public health, and election to it is considered among the highest honors in those fields. [Read More](#)

Benaroya Research Institute Awarded \$3.4 Million NIH R01 Grant to Continue Studying Why Immune Responses Are Altered in Those with Down Syndrome

Benaroya Research Institute at Virginia Mason



Benaroya Research Institute has announced a new \$3.4 million-dollar five-year Research Project Grant (R01) by the National Institute of Allergy and Infectious Diseases of the National Institutes of Health (NIH) to study why immune responses are altered in those with Down syndrome. Principal Investigator Dr. Bernard Khor (pictured) will lead the R01 grant that builds on prior findings of advanced immune aging in people with Down syndrome. [Read More](#)

Dr. Anat Zimmer Receives AAUW Fellowship

Fred Hutch



Computational biologist Dr. Anat Zimmer (pictured), a postdoctoral researcher in Dr. Gavin Ha's lab at Fred Hutch, was awarded a 2022-23 fellowship by the American Association of University Women (AAUW). One of the world's oldest leading supporters of graduate women's education, the AAUW offers monetary awards to alleviate financial stress so women can focus on their educational and career aspirations. [Read More](#)

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Local News

Researching Herpes Treatments with 'Skin-On-Chip' Technology

Fred Hutch



Immunologist and virologist Dr. Jia Zhu (pictured) leads a group of researchers studying herpes simplex viruses, which are responsible for periodic outbreaks of cold sores in the mouth or for recurrent ulcers in the genitals. With their device, which she calls a "skin-on-chip" platform, Dr. Zhu and her team have built and tested a prototype tool that could help researchers speed the development of human herpes treatments. [Read More](#)

Life Sciences Entrepreneurs Offer Advice on Launching and Building Startups

GeekWire



UW recently hosted a panel of five entrepreneurs to discuss what it takes to launch a life sciences company. Panelists, including A-Alpha Bio CEO Dr. David Younger (pictured, center), shared how they got a foothold in the industry and some of the things they learned along the way. The panel was moderated by Dr. Teddy Johnson, Director of Technology Development at the UW's Institute of Translational Health Sciences. [Read More](#)

Deep Learning Tool Identifies Bacteria in Micrographs

UW Medicine



Omnipose, a deep learning software developed at UW, is helping to solve the challenge of identifying varied and minuscule bacteria in microscopy images. It has gone beyond this initial goal to identify several other types of tiny objects in micrographs. Omnipose, trained on a large database of bacterial images, performed well in characterizing and quantifying the myriad of bacteria in mixed microbial cultures. [Read More](#)

New Approach Could Make Bone Marrow Transplantation Safer, Stronger

Fred Hutch



A Fred Hutch team has developed a two-hit, post-transplant approach that clears away the immune cells underpinning graft-versus-host disease, then boosts the anti-tumor activity of the immune cells left behind. The team, led by Dr. Geoff Hill (pictured), showed the approach prevented relapse in laboratory models of bone marrow transplantation to treat leukemia and multiple myeloma. [Read More](#)

Dr. Alice Kane Joins ISB as Ling/Obrzut Assistant Professor

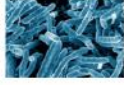
Institute for Systems Biology



The Institute for Systems Biology (ISB) is excited to announce the arrival of their newest faculty member, Ling/Obrzut Assistant Professor Dr. Alice Kane (pictured). Her lab will investigate the biological determinants of frailty in both males and females. In this Q&A, she delves into her research career to date, her research areas of interest, and much more. [Read More](#)

Naveen Jain's Microbiome and Diagnostics Startup Viome Is Raising More Cash

GeekWire



Seattle-area microbiome and diagnostics startup Viome Life Sciences is raising more cash, according to a new regulatory filing. The filing shows \$67 million raised of a larger round. Viome sells a kit to determine the microbial composition of stool samples and recommends "precision" supplements and probiotics based on an individual's readout. [Read More](#)

Seattle Children's Announces Chief Research Operations Officer

Seattle Children's



Seattle Children's has announced the appointment of Dr. Eric Tham (pictured) as its new Senior Vice President and Chief Research Operations Officer. Dr. Tham will focus on research administration, finance, operations and continue broader research leadership, effective immediately. Since 2021, Dr. Tham has served as Interim Senior Vice President of Seattle Children's Research Institute. [Read More](#)

Cracking the Code of Addiction

Allen Institute



Reward is essential for life. Our brains flood with feel-good chemicals when we learn, eat, and have sex. But these essential brain circuits are hijacked in drug addiction. Neuroscientists at the Allen Institute and the University of North Carolina are working to crack the biology of reward and addiction. Hear about their work and their hopes for the future of treating addiction in the latest episode of Lab Notes, a podcast from the Allen Institute. [Read More](#)

CEO Nick Reder on the Advantages of 3D Spatial Biology in Dynamik Capital Interview

Alpenglow Biosciences



Alpenglow CEO Dr. Nick Reder (pictured) participated in a recent interview with Sebastian Latape, Principal at Dynamik Capital. 3D spatial biology is an exciting new space and Dynamik wanted to learn more about how Alpenglow is using its technology to accelerate drug discovery. Hear about the motivation for developing the technology, the advantages of 3D spatial biology over traditional 2D methods, applications, how AI is being applied to streamline use, and how they envision rolling this out broadly into the industry. [Read More](#)

BBI Researchers Present on Their Work at International CRISPR Conference

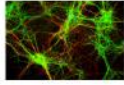
Brotman Baty Institute (BBI)



Florence Chardon (pictured, left) and Moez Dawood (right), two BBI researchers based in Dr. Lea Starita's lab, recently presented on their work at the international conference, "CRISPR and Beyond" in the U.K. In this interview, they discuss their own research, the most interesting research presented at the meeting, and how the conference will influence their research going forward. [Read More](#)

SciShots: The Brain's Cleanup Crew and Paramedics

Allen Institute



Around half of your brain is made up of cells that are not neurons. Among those are octopus-like microglia, which act as the brain's janitor and paramedic, consuming dead cells, pathogens, and harmful protein clusters that cause disease. These shape-shifting cells, the primary immune cells in the brain, are closely related to blood cells. Their tentacle-like arms can move around to touch nearby neurons to check up on whether they're functioning properly. [Read More](#)

Developing a Neuromuscular Modeling System

Institute for Stem Cell & Regenerative Medicine



Over the last two years, researchers at the Institute for Stem Cell and Regenerative Medicine, led by Dr. Alec Smith (pictured), have been using skeletal muscle derived from induced pluripotent stem cells to study how neuromuscular diseases develop and to test potential therapeutics. However, there is an important shortcoming. [Read More](#)

Fred Hutchinson Cancer Center Receives \$710.5 Million Gift to Accelerate Cancer and Infectious Disease Research

Fred Hutch



The Dezos family has committed \$710.5 million over the next decade to accelerate Fred Hutchinson Cancer Center's multifaceted approach to scientific discovery. The gift supports the organization's efforts to dramatically accelerate the pace and breadth of medical breakthroughs in cancer and infectious disease by tapping the full potential of today's science. [Read More](#)

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Upcoming Events in Seattle

- October 25
4:00 pm

Research Roundtable with Dr. Jared Roach
Online
- October 25
5:30 pm

"Of Medicine and Miracles" A Special Film Screening: Celebrating Cellular Therapy Clinical Success and Looking Ahead to What's Next
The Seattle Public Library
- October 26 - 27
9:00 am

BioBasics 101: The Biology of Biotech for the Non-Scientist
Lib Science Washington Office
- October 26
10:30 am

Distinguished Seminar Series – Brian Dias
Online
- October 26
7:20 pm

Engineering Therapies for the Pediatric Brain
Kane Hall 139

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Science Jobs in Seattle

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Assistant Director, General Research Lab

UW Department of Laboratory Medicine and Pathology

Scientist, Computational Biology

Shape Therapeutics

Senior Research Associate, Formulation Development

Omeza

Clinical Specimen Coordinator

Alpine Immune Sciences

Biostatistics Software Engineer II, R Developer

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