

Publications of the Week

Whole Genome Sequencing Identifies Structural Variants Contributing to Hematologic Traits in the NHLBI TOPMed Program

First Authors: Marsha Wheeler, Adrienne Sliip, Shaoguo Rao, Nathan Panisratz, and Daniel Bauer | Senior Author: Alex Hamer (pictured) | Nature Communications | UW



Genome-wide association studies have identified thousands of single nucleotide variants and small indels that contribute to variation in hematologic traits. The authors utilized whole genome sequencing data in ancestrally diverse participants of the Heart, Lung, and Blood Institute (NHLBI) Trans Omics for Precision Medicine (TOPMed) program to detect structural variants associated with hematologic traits. [Abstract](#)

dATP Elevation Induces Myocardial Metabolic Remodeling to Support Improved Cardiac Function

First Author: Katakai Mhabe | Senior Author: Michael Regnier (pictured) | Journal of Molecular and Cellular Cardiology | Institute for Stem Cell & Regenerative Medicine and UW



Hallmark features of systolic heart failure are reduced contractility and impaired metabolic flexibility of the myocardium. Cardiomyocytes (CMs) with elevated deoxy ATP (dATP) via overexpression of ribonucleotide reductase (RNR) enzyme robustly improve contractility. However, the effect of dATP elevation on cardiac metabolism is unknown. The authors developed proteolysis-resistant versions of RNR and demonstrate that elevation of dATP/ATP to ~1% in CMs in a transgenic mouse resulted in robust improvement of cardiac function. [Abstract](#)

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Awards

UW Grad Daniel Chen Named Prestigious Marshall Scholar

UW



Daniel Chen (pictured) has been named a Marshall Scholarship recipient. Chen graduated from UW last spring with majors in microbiology and informatics, and will be pursuing a master's degree in biological sciences and genomic medicine and conducting genomic medicine research at the Sanger Institute at the University of Cambridge in the United Kingdom. [Read More](#)

Eight Fred Hutch Teams Win Evergreen Fund Awards

Fred Hutch



Eight research teams at Fred Hutch will receive in-house grants this year from the Evergreen Fund, a unique program to boost scientific projects deemed promising enough in their early stages to attract potential commercial partners later on. Winners include Drs. Jim Boonyaratankornkit (pictured, left) and Aakanksha Singhvi (right). [Read More](#)

UW BioE Students Receive Scholarships and Fellowships

UW Department of Bioengineering (BioE)



Six students in the Department of Bioengineering at UW have been awarded scholarships or fellowships for the 2022-2023 academic year. Flora Hu (pictured, bottom right), Joey Liang (top right), Carter Rowell (bottom, middle), and Jamie Yang (top, middle) have been awarded Levinson Emerging Scholars Awards, Tran Luu (bottom, left) has been awarded a Washington Research Foundation Fellowship, and Rachel Shi (top, left) has been awarded a Tolo Foundation Elizabeth Ayers Scholarship. [Read More](#)

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Local News

Bat Virus Receptor Studies Vital to Predict Spillover Risk

UW Medicine



New research shows that the closest bat virus relatives of the human middle-east respiratory syndrome coronavirus efficiently bind to bat ACE2 receptors as an entry point into these cells. These receptors have some similarities to the ACE2 receptors in human cells. However, at present, this coronavirus, called NeoCoV and a similar virus, PDF-2180, only weakly bind to human ACE2 cell receptors as an entry point into cells. [Read More](#)

Another Job for Mighty Mitochondria: Regulating Stem Cell Division

Institute for Stem Cell & Regenerative Medicine



Remarkably, although mitochondria are commonly studied in labs from middle school to major universities, we are still learning about them. Research from the Ruzhela-Baker lab, published this week in the journal *Stem Cell Reports*, shows that mitochondria determines whether a stem cell can reproduce or not, a finding that sheds new light on the factors that influence cell cycles. [Read More](#)

Tracking Prostate Cancer Dynamics

Fred Hutch



To fight prostate tumors, we need to understand their survival strategies. New work, published in *eLife*, gives scientists an unprecedentedly detailed look at individual cells as prostate cancer develops and turns treatment-resistant in mouse models of the disease. "The idea was to create a cell-by-cell tapestry of prostate cancer progression," said medical oncologist and prostate cancer researcher Dr. Andrew Hsieh (pictured, left). [Read More](#)

2022 Year in Review

Fred Hutch



There isn't a business as usual when it comes to cancer research and clinical care, but 2022 brought significant changes for Fred Hutch, most evidenced by the new name — Fred Hutchinson Cancer Center — to reflect a new organization that unites comprehensive care and advanced research to provide the latest cancer treatment options and accelerate discoveries that prevent, treat, and defeat cancer and infectious diseases. [Read More](#)

NanoString's CosMx Spatial Molecular Imager Recognized by The Scientist Magazine as a Top 10 Innovation of 2022

NanoString via Business Wire



NanoString Technologies has announced that the company's CosMx™ Spatial Molecular Imager (SMI) has been recognized by *The Scientist* magazine as one of the Top Ten Innovations of 2022. This recognition identifies CosMx SMI as a product poised to revolutionize research and advance scientific knowledge with the potential to foster novel solutions and address specific problems in their respective

potential to learn, adapt, overcome and succeed despite pandemic-related restrictive fields. [Read More](#)

Could a 100-Year-Old TB Vaccine Help Scientists Find a Better One?

Fred Hutch



A new study is looking to find out whether *Bacillus Calmette-Guérin* — made of live but hobbled cousins of the tuberculosis (TB) germs that afflict humans — might safely work as a stand-in for real TB germs in future clinical trials to assess new drugs and better vaccines to stop the disease. The Seattle study is led by Dr. Jim Kublin at Fred Hutch. [Read More](#)

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Interesting Articles

The US Bioscience Industry: Fostering Innovation and Driving America's Economy Forward

Life Science Washington



The Biotechnology Innovation Organization has released the tenth annual biennial report showcasing employment and economic data of the nation's biosciences industry. The report highlights the US biosciences industry, including Washington's flourishing scene, which has grown by nearly 12 percent since 2018, outpacing national industry growth, reaching 43,546 jobs in 2021 across more than 2,800 state business establishments. [Read More](#)

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Upcoming Events in Seattle

- December 30 10:00 am **Winter Animal Adaptations**
Online
- January 13 9:30 am **Open Ephys Plugin Development Workshop**
Online
- January 19 12:00 pm **Grant Writing Bootcamp Part II – Essentials for SBIR/STTR Proposals**
Online
- January 19 7:30 pm **Ginny Ruffner with Dr. Jim Heath: The Intersection of Art and Science**
The Forum
- January 24 4:00 pm **Research Roundtable with Dr. Anna Kuchina**
Online

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Science Jobs in Seattle

- Research Associate, Immuno-Oncology**
Kineta
- Supervisor, Research & Innovation**
Adaptive Biotechnologies
- Research Associate II, Late Stage Research**
Seagen
- Associate Director, Quality Assurance**
Blaze Bioscience
- Senior Scientist, Upstream Process Development**
Zymeworks

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 **Webinar: SARS-CoV-2 Viral Load, Disease Severity, and Transmission** 

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