

Publications of the Week

Multi-Level Functional Genomics Reveals Molecular and Cellular Oncogenicity of Patient-Based 3' Untranslated Region Mutations

First Author: Samatha Schuster | Senior Author: Andrew Hsieh (*pictured*)
Cell Reports | UW and Fred Hutch

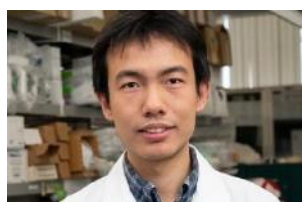


3' untranslated region (3' UTR) somatic mutations represent a largely unexplored avenue of alternative oncogenic gene dysregulation. To determine the significance of 3' UTR mutations in disease, researchers identify 3' UTR somatic variants across 185 advanced prostate tumors, discovering 14,497 single-nucleotide mutations enriched in oncogenic pathways and 3' UTR regulatory elements.

[Abstract](#) | [Press Release](#)

Donor T Cell STAT3 Deficiency Enables Tissue PD-L1-Dependent Prevention of Graft-Versus-Host Disease While Preserving Graft-Versus-Leukemia Activity

First Author: Qinjian Li (*pictured*) | Senior Author: Defu Zeng
The Journal of Clinical Investigation | UW



STAT3 deficiency (STAT3^{-/-}) in donor T cells prevents graft-versus-host disease (GVHD), but the impact on graft-versus-leukemia (GVL) activity and mechanisms of GVHD prevention remains unclear. Using murine models of GVHD, the authors showed that STAT3^{-/-} donor T cells induced only mild reversible acute GVHD while preserving GVL effects against nonsusceptible acute lymphoblastic leukemia cells in a donor T cell dose-dependent manner. [Abstract](#)

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Awards

Dr. Akhila Rajan Receives McKnight Award

Fred Hutch



The health of our fat cells may influence the health of other organs and obesity researcher Dr. Akhila Rajan (*pictured*) has received a McKnight Foundation award to map that link. The Fred Hutchinson scientist's \$300,000, three-year Neurology of Brain Disorders Award will support investigations into how components of fat cells' mitochondria find their way to the brain — and how they may influence neurological health after they arrive. [Read More](#)

Three Collaborative Projects Announced for ISB's 2023 Innovator Award Program

Institute for Systems Biology



The Institute of Systems Biology (ISB) kicked off the seventh year of their Innovator Award Program by announcing three collaborative projects. This internal program is designed to support novel research ideas that cut across disciplines and research groups. The projects included Dr. Hanjun Cheng's (*pictured, middle*) research into engineering a biorthogonal Tn5 transposase for joint profiling of transcription factor bindings, gene expressions, and functional proteins in single cells. [Read More](#)

Rachel Shi Receives 2023 Fulbright Study/Research Award to Study in Germany

UW



UW bioengineering MS student Rachel Shi (*pictured*) has received a Fulbright fellowship to study the use of biopolymer coatings for biomedical devices at the Max Planck Institute for Polymer Research in Mainz, Germany. Rachel currently works in the lab of Dr. Buddy Ratner, joint Professor of Bioengineering and Chemical Engineering. Rachel's role in the lab involves developing flat film and hollow fiber polymer membranes for dialysate nanofiltration in portable dialysis devices. [Read More](#)

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Local News

Addressing Drug-Resistant Pathogens by Targeting Their Protective Biofilms

UW



In the United States in 2014, approximately one in 25 patients contracted an infection while hospitalized. The World Health Organization has declared that antimicrobial resistance is one of the top ten global public health threats facing humanity. David and Nancy Auth Endowed Professor of Bioengineering Dr. Valerie Daggett (*pictured*) and her lab are collaborating with Dr. James Bryers, another UW Bioengineering Professor, to overcome, or bypass, the resistance. [Read More](#)

Designing Better Flu Shots: NIH Highlights King Lab's Progress on Universal Vaccines

Institute for Protein Design



In a quest to thwart future pandemics, the lab of Dr. Neil King (*pictured*) has made significant strides toward the development of universal vaccines, as recently noted by the National Institutes of Health (NIH). Traditional vaccines, while crucial, can only target specific strains of a disease. Universal vaccines, on the other hand, are meant to train the immune system to combat all versions of a pathogen, including strains yet to evolve. [Read More](#)

COVID-19 Vaccines and Boosters Associated with Lower Rates of Stillbirth, New ISB Study Shows

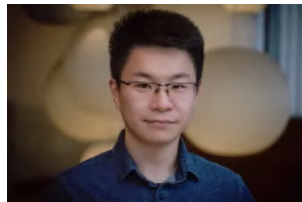
Institute for Systems Biology



Pregnant people who are vaccinated are less likely to contract COVID-19 than unvaccinated pregnant people, and those vaccinated and boosted are less likely to get COVID than those who are vaccinated only, according to the first-ever large study of COVID boosters in pregnant people. The study was led by a team including Dr. Jennifer Hadlock (*pictured*) at the Institute for Systems Biology (ISB) in Seattle, and was published in *Lancet Digital Health*. [Read More](#)

Spotlight on Invent@SC's Future Biotech Leaders: Meet Seattle Children's Dr. Edward Song

Seattle Children's



Founded in 2022, the Invent at Seattle Children's Postdoctoral Scholars Program is a first-in-the-nation postdoctoral training program that aspires to develop novel therapeutics at Seattle Children's. Dr. Edward Song (*pictured*) joined the program in January and spoke with *On the Pulse* about what drew him to the program, his current research project, why it was a unique career opportunity, and what he hopes to accomplish during his time in the program. [Read More](#)

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📅 Upcoming Events in Seattle

August 9-11 9:00 am	2023 Cell Science Teacher Academy Allen Institute
August 9 12:30 pm	Research Roundtable with Dr. Jacob Valenzuela and Algae Prize Winners Rohan Chanani and Ashwin Mukherjee Institute for Systems Biology
August 9 3:30 pm	2023 GeekWire Rooftop BBQ + Mariners Day GeekWire
August 15 10:30 am	Distinguished Seminar Series Leah Krubitzer Allen Institute
August 17 4:30 pm	Life Science Washington Annual Summer Social 2023 Life Science Washington

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📁 Science Jobs in Seattle

- Clinical Research Scientist**
Seattle Children's
- Senior Research Associate, Cell and Molecular Biology**
Onco Response
- Research Associate II, *In Vivo* Biology**
Seagen
- Equipment Operations Specialist, Cell Therapy**
Bristol Myers Squibb
- Technical & Compliance Lab Manager**
Fred Hutch Cancer Center

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