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Publications of the Week

Autocrine and Paracrine IL-2 Signals Collaborate to Regulate Distinct Phases of CD8 T Cell Memory

First Authors: Ryma Toumi and Yevgeniy Yuzefpolskiy | Senior Author: Vandana Kalia *(pictured, left)*
Cell Reports | Seattle Children's Research Institute and UW

Differential interleukin-2 (IL-2) signaling and production are associated with disparate effector and memory fates. Using distinct models of germline and conditional IL-2 ablation in post-thymic CD8 T cells, the authors show that paracrine IL-2 is sufficient to drive optimal primary expansion, effector and memory differentiation, and metabolic function. **Abstract**

Human Cerebellar Development and Transcriptomics: Implications for Neurodevelopmental Disorders

First Author: Parthiv Haldipur | Senior Author: Kimberly Aldinger *(pictured, right)*
Annual Review of Neuroscience | Seattle Children's Research Institute and UW

Developmental abnormalities of the cerebellum are among the most recognized structural brain malformations in human prenatal imaging. Yet reliable information regarding their cause in humans is sparse, and few outcome studies are available to inform prognosis. We know very little about human cerebellar development, in stark contrast to the wealth of knowledge from decades of research on cerebellar developmental biology of model organisms, especially mice. **Abstract**

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Awards

Dr. Brenda Sandmaier Named President of American Society for Transplantation and Cellular Therapy

Fred Hutch

The American Society for Transplantation and Cellular Therapy (ASTCT), announced Dr. Brenda Sandmaier *(pictured)* as the ASTCT president in 2022-2023. Dr. Sandmaier is a Professor in the Clinical Research Division at Fred Hutch and Professor of Medicine in the Division of Medical Oncology at UW Medicine. "The opportunity to serve as president of ASTCT is an honor," Dr. Sandmaier said. **Read More**

Ayokunle Olanrewaju Receives UW NanoES Northwest Nanotechnology Infrastructure Seed Grant

UW Department of Bioengineering

Dr. Ayokunle Olanrewaju *(pictured)*, Assistant Professor of Mechanical Engineering and of Bioengineering, has received one of four seed grants from UW's Institute for Nano-Engineered Systems (NanoES). The grants, made availble to researchers at UW and Western Washington University, support the use of nanotechnology tools to develop new, innovative technologies and devices. **Read More**

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Local News

UW Medicine-Developed COVID Vaccine Effective in Test

UW Medicine

A COVID-19 vaccine developed at UW Medicine has proven safe and effective in late-stage clinical testing. SK bioscience, the company leading the vaccine's clinical development, will seek authorization for its use in South Korea. If it receives full approval from regulators, it will be made available through COVAX, an international effort working to equitably distribute COVID vaccines around the world. **Read More**

Rotory Proteins Designed from Scratch

Institute for Protein Design

Researchers at the Institute for Protein Design, led by Dr. Alexis Courbet *(pictured)*, recently reported in *Science* the design of rotary devices made from custom proteins. These microscopic "axles" and "rotors" come together to form spinning assemblies, rather than being locked in just one orientation. This research paves the way for a new generation of nanoscale machines in which the motion of the components is powered by solar energy or chemical fuel. **Read More**

Cilia-Free Stem Cells Offer New Path to Study Rare Diseases

UW Medicine

A group of rare diseases called ciliopathies — polycystic kidney disease notable among them — emerge from defects in cilia. In a novel experiment, Dr. Benajamin Freedman's *(pictured)* team "knocked out," or deleted, the cilia in a population of otherwise normal human pluripotent stem cells. Subsequently, human tissues and mini-organ structures derived from these cilia-free stem cells manifested ciliopathy-like symptoms. **Read More**

New Study Identifies Genetic Changes in Patients Who Progress to Esophageal Cancer

Fred Hutch

More and more mutations clutter up our DNA as we age. Mostly, these don't cause problems. But sometimes, a switch will flip, and a mutated cell turns cancerous. Can we see this shift in time to prevent or treat cancer before it starts? Led by researchers at Fred Hutch, a scientific team that studies Barrett's esophagus, a precancerous condition of the esophagus, are working to answer this question. **Read More**

Benaroya Research Institute Team Examines COVID Vaccine Response in People under Treatment for MS and Other Autoimmune Diseases

Benaroya Research Institute at Virginia Mason (BRI)

Studies in the lab of Dr. Estelle Bettelli *(pictured)* at BRI demonstrate that disease modifying therapies used to treat individuals with multiple sclerosis (MS) significantly change immune responses generated by COVID-19 vaccines. Data from these studies could inform best approaches against COVID-19, not only for people with autoimmune diseases or those who are immunocompromised, but for everyone. **Read More**

Why Is the Human Brain So Difficult to Understand? We Asked Four Neuroscientists

Allen Institute

Many fields of science are complicated, and of course anything under active scientific investigation is not fully understood. But the brain seems different. Scientists have known for centuries that the brain is the seat of human thought, but we're still in the dark about how it works. The Allen Institute asked four neuroscientists to expound on why we don't yet understand the human brain, and what it might take to get there. **Read More**

BBI Faculty Conversations: Dr. Alison Paquette

Brotman Baty Institute (BBI)

BBI Member Dr. Alison Paquette *(pictured)* is an Assistant Professor in the Department of Pediatrics at UW Medicine and a member of the Seattle Children's Research Institute's Center for Developmental Biology and Regenerative Medicine. She discusses how she got involved in her area of research within precision medicine, which is largely focused on the placenta and its long-term impacts on fetal health. **Read More**

Pluristyx and Accelerated Biosciences Announce Availability of Clinical-Grade Immune-Privileged Human Trophoblast Stem Cells (hTSCs)

Pluristyx

Pluristyx, an advanced therapy tools and services biotechnology company, and Accelerated Biosciences, a regenerative medicine innovator in the use of hTSCs, announced they signed an agreement for Pluristyx to manufacture clinical grade hTSC banks under Good Manufacturing Practices. Accelerated Biosciences will use and make these stem cell banks available to commercial partners for further manufacturing of advanced biologic and cellular therapies. **Read More**

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Upcoming Events in Seattle

May 3 9:00 AM	**May Variant Effect Seminar Series** Online
May 4 12:00 PM	**Cellular Therapy Series Part I: How Engineered Cellular Therapies Are Reshaping Medicine** Online
May 4 12:00 PM	**Biostatistics Seminar Series** Online
May 5-6 8:00 AM	**Art Auction Benefiting Seattle Children's Hospital** Online
May 7 4:00 PM	**Research Roundtable with Chris Lausted and Dr. Danielle Vermaak** Online

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Science Jobs in Seattle

Research Associate II, Molecular Genetics
Allen Institute

Postdoctoral Fellow, Inflammatory Processes
Seattle Children's

Therapeutic Products Program Process Engineer I-II
Fred Hutch

Senior Director of Clinical Development, Liver
Gilead Sciences

Senior Engineer, Development Process Automation, Cell Therapy
Bristol Myers Squibb

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