

**Publications of the Week**

### An Integrase Toolbox to Record Gene-Expression During Plant Development

First Author: Sarah Guiziou | Senior Author: Jennifer Nemhauser *(pictured)*  
Nature Communications | UW



There are many open questions about the mechanisms that coordinate the dynamic, multicellular behaviors required for organogenesis. Synthetic circuits that can record *in vivo* signaling networks have been critical in elucidating animal development. The authors report on the transfer of this technology to plants using orthogonal serine integrases to mediate site-specific and irreversible DNA recombination visualized by switching between fluorescent reporters. [Abstract](#)

### Structural Basis for Severe Pain Caused by Mutations in the S4-S5 Linkers of Voltage-Gated Sodium Channel Na<sub>v</sub>1.7

First Author: Goragot Wisedchaisri | Senior Author: William Catterall *(pictured)*  
PNAS | UW



Gain-of-function mutations in voltage-gated sodium channel Na<sub>v</sub>1.7 cause the severe inherited pain syndrome inherited erythromelalgia (IEM). The authors introduced three IEM mutations into the ancestral bacterial sodium channel Na<sub>v</sub>Ab, which substitutes threonine residues in the S4-S5 linker connecting the voltage sensor to the pore. [Abstract](#)

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**Awards**

### Eavesdropping on Microbe Chatter Earns Gairdner Award

UW Medicine



Three microbiologists who helped pioneer the field of quorum sensing — how bacteria communicate with each other — are being honored with the 2023 Canada Gairdner International Award. Dr. Peter Greenberg *(pictured)*, the inaugural Eugene and Martha Nester Professor of Microbiology at the UW School of Medicine, joins Dr. Bonnie Bassler and Dr. Michael Silverman in receiving this year's award. [Read More](#)

### Helen Chu Receives Clinical Virology Award

UW Medicine



Dr. Helen Chu *(pictured)*, Associate Professor of Allergy and Infectious Diseases, has received the 2023 Ed Nowakowski Senior Memorial Clinical Virology Award from the Pan American Society for Clinical Virology. The Clinical Virology Award recognizes an outstanding scientist whose contributions to clinical virology have had a major impact on the understanding of viral disease pathogenesis, epidemiology, or treatment. [Read More](#)

### BBI's Dr. Georg Selig Named 'DNA Computer Scientist of the Year'

Brotman Baty Institute (BBI)



Dr. Georg Selig *(pictured)*, a faculty member in the Allen School and Department of Electrical & Computer Engineering, has been hailed as the "DNA Computer Scientist of the Year" by the International Society for Nanoscale Science, Computation, and Engineering, who named him the winner of the 2023 Rozenberg Tulip Award in recognition of his leadership and original contributions that have advanced the field of DNA computing. [Read More](#)

### Awards for New Ideas in Alzheimer's Research

UW Medicine Memory & Brain Wellness Center



Congratulations to Drs. Yeilim Cho, Angela Hanson *(pictured)*, Tomas Vaisar, Mehmet Kurt, and Andrew Stergachis for receiving Alzheimer's Disease Research Center (ADRC) Development Project awards. These researchers will use ADRC resources to pursue new projects ranging in topic from obstructive sleep apnea to more precise ways to detect Alzheimer's risk. [Read More](#)

### The 2023 iCMLf Rowley Prize Is Awarded to Professor Jerry Radich

International Chronic Myeloid Leukemia Foundation



The International Chronic Myeloid Leukemia Foundation (iCMLF) has announced that Dr. Jerry Radich *(pictured)*, Director of the Radich Laboratory and the Molecular Oncology Laboratory at Fred Hutch, is the winner of the 2023 Rowley Prize. The iCMLF Rowley Prize is awarded to celebrate people who have made outstanding lifetime contributions to the understanding of the biology of CML. [Read More](#)

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**Local News**

### Clinical Trial Will Evaluate Mpox Vaccine for Adolescents

Kaiser Permanente Washington Health Research Institute (KPWHRI)



KPWHRI is one of 18 sites participating in a clinical trial to evaluate the safety of a vaccine for mpox in adolescents as well as the immune response it generates. Sponsored by the National Institutes of Health, the trial will compare the immune response in people ages 12 through 17 with the response in those ages 18 through 50. [Read More](#)

### The Inspiration Behind a New Diversity Program for Biotech in Seattle

GeekWire



After several years of planning, the Invent at Seattle Children's Postdoctoral Scholars Program launched in June. The program aims to increase diversity in the biotech workforce and create a better scientific environment for Black and other individuals under-represented in the field. The \$45 million program trains scientists from racially and ethnically diverse backgrounds, women, and people who identify as LGBTQ+ for careers in the biotech industry. [Read More](#)

### Computer Science Reveals Possible Drug Target for Deadly Childhood Leukemia

Benaroya Research Institute



Dr. Hamid Bolouri *(pictured)* is an expert in using computer science to advance biomedical research. Working with Dr. Soheil Meshinchi and his team at Fred Hutch, he made a recent discovery that may lead to new treatments for certain forms of pediatric acute myeloid leukemia (AML). "We discovered that inflammation plays a role in several of these deadly subtypes of AML. And we may have found a way to target that inflammation to get better clinical outcomes," Dr. Bolouri says. [Read More](#)

### Mukilteo Man's Rare Brain Surgery May Help His Seizures — And Science

The Seattle Times



Mike Morgan knew it would be risky to let surgeons open his skull and slice out a piece of tissue. But Morgan was ready to take that chance to potentially learn why he was suffering seizures and processing information slower than he ever had, since part of his brain burst in a hemorrhage more than four years ago. Morgan also wanted to serve science. "Whatever can help with research," the 41-year-old said. "Whatever can help anybody else." [Read More](#)

### RF Diffusion Now Free and Open Source

Institute for Protein Design (IPD)



RF Diffusion, the IPD's artificial intelligence (AI) program that can generate novel proteins with potential applications in medicine, vaccines, and advanced materials, is now free for both non-profit and for-profit use under a governed license. "We're thrilled to share RF Diffusion with the global research community, and we can't wait to see the diverse and innovative ways scientists will apply this powerful AI tool," says David Juergens *(pictured)*. [Read More](#)

### Learning How Tregs Keep Your Immune System in Check

Benaroya Research Institute



T cells go through a specific process when they sense an invader in the immune system. First, they build biomass and get ready to make all sorts of proteins. Then, they make a bunch of copies of themselves, which zoom to site of infection and stop it. They calm down again once the germs are gone. Dr. Steven Ziegler's *(pictured)* team built a model to examine exactly how Tregs affect this process. [Read More](#)

### Building a Brighter Future for High-Risk Newborns

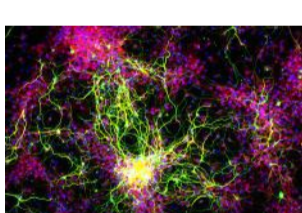
Pacific Northwest Research Institute



Although hospitals can now sequence the genomes of critically ill newborns in hours rather than days, it's often not possible to make a diagnosis based on these data alone. This is because each person's genome has millions of sequence differences, and while some of these mutations cause disease, many do not. It's a classic needle in a haystack problem, but one with very high stakes. [Read More](#)

### Most Detailed Map of Mouse Brain Includes 5200 Different Types of Cell

New Scientist



The most detailed cellular map of a mouse's brain to date could deepen our understanding of how the organ evolved in mammals and what goes wrong in certain neurological conditions. Various research groups have previously mapped hundreds of cell types across the mouse brain, but these were often based on a relatively small sample of cells. [Read More](#)

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**Interesting Articles**

### Microsoft Research Head Peter Lee on the Applications of GPT-4 in Medicine and Life Sciences

GeekWire



Peter Lee has spent a lot of time recently with GPT-4, the AI-powered tool that simulates human conversation, built by OpenAI with contributions from its partner Microsoft. Lee, Head of Microsoft Research, is tasked with assessing the implications of the tool for medicine. And he thinks it could increase efficiency and even empathy in the healthcare system, as well as boost biomedical research. [Read More](#)

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### Upcoming Events in Seattle



April 11

1:00 pm

**New Member Roundtable: Women In Bio Membership Benefits & Speed Networking**

Online

April 19

5:30 pm

**PacSci Happy Hour**

Pacific Science Center

April 25 - 26

8:00 am

**Life Science Innovation Northwest 2023**

Seattle Convention Center

April 30 - May 2

5:00 pm

**Fourth Symposium on Infectious Diseases in the Immunocompromised Host**

Marriott Waterfront Seattle

May 4

6:30 pm

**Biomaterials: Cells in Jello and Wonders at Work**

400 Dexter Ave N.

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### Science Jobs in Seattle

**Medical Director**

Seagen

**Quality Assurance Associate I**

nanoString

**Quality Assurance Associate I**

Universal Cells-Astellas Pharma

**Senior Manager, QA Operations**

Just-Evotec Biologics

**Manufacturing Technician**

Curi Bio

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