

Publications of the Week

De Novo Design of Protein Structure and Function with RFdiffusion

First Authors: Joseph Watson, David Juergens, Nathaniel Bennett, Brian Trippe, Jason Yim, Helen Eisenach, and Woody Ahern | Senior Author: David Baker *(pictured)*
Nature | UW



Researchers showed that by fine tuning the RoseTTAFold structure prediction network on protein structure denoising tasks, they obtain a generative model of protein backbones that achieves outstanding performance on unconditional and topology-constrained protein monomer design, protein binder design, symmetric oligomer design, enzyme active site scaffolding, and symmetric motif scaffolding for therapeutic and metal-binding protein design. [Abstract](#) | [Press Release](#)

A Human-Specific Motif Facilitates CARD8 Inflammasome Activation After HIV-1 Infection

First Author: Jessie Kulsuptrakul | Senior Author: Patrick Mitchell *(pictured)*
eLife | UW and Fred Hutch



Inflammasomes are cytosolic innate immune complexes that assemble upon detection of diverse pathogen-associated cues and play a critical role in host defense and inflammatory pathogenesis. Here, investigators find that the human inflammasome-forming sensor CARD8 senses HIV-1 infection via site-specific cleavage of the CARD8 N-terminus by the HIV protease. [Abstract](#)

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Awards

Blood Cancer Experts Drs. Roland Walter and Mazyar Shadman Receive Endowed Chairs

Fred Hutch



Fred Hutchinson Cancer Center recently named two distinguished hematologists, Drs. Roland Walter *(pictured)* and Mazyar Shadman, with endowed chair appointments. Endowed chairs represent one of the highest honors a Fred Hutch faculty member can receive. The positions will allow them to further their research and gain new insights into treatments for patients with hematologic cancers and diseases. [Read More](#)

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Local News

Ananda Goldrath to Lead Allen Institute for Immunology

Allen Institute



The Allen Institute announced the hiring of Dr. Ananda Goldrath *(pictured)* as Executive Vice President of the Allen Institute for Immunology. Dr. Goldrath comes to the Institute from the University of California, San Diego where she most recently served as Tata Chancellor's Professor of Molecular Biology. "Emerging research, technology, and tools – some pioneered at the Allen Institute – are opening new windows into the immune system," said President & CEO Dr. Rui Costa. [Read More](#)

Fred Appelbaum's "Living Medicine" Tells the Story of Bone Marrow Transplantation and Don Thomas's Discoveries

Cancer History Project



In 1970, in the journal *Blood*, a second-year medical student named Frederick Appelbaum *(pictured)* read a paper describing a 46-year-old man with blastic crisis of chronic myelogenous leukemia who was given 950 rads whole-body irradiation followed immediately by 17.6 x 10⁹ marrow cells. To rescue this patient from this lethal dose, the study's senior author — E. Donnall Thomas — injected marrow cells from the patient's sister into the patient, and the cells successfully grafted. [Read More](#)

New OpenScope Projects Aim to Shed Light on How We Process Our Visual World

Allen Institute



A special "morse code" hidden in certain neurons. Brain cells that keep track of moving objects and help form memories. How our brains predict where we're going from where we are. Three new projects are underway at the Allen Institute to delve into the science behind these topics, through the shared neuroscience observatory known as OpenScope. "People are submitting their precious ideas to us, and they have to trust us to carry them out," said Dr. Jérôme Lecoq *(pictured)*, Associate Investigator at the Allen Institute, who heads the OpenScope program. [Read More](#)

How AI Is Changing the Way Scientists Engineer Drugs, Biosensors, Enzymes and More

GeekWire



We're inside the headquarters of Outpace Bio in Seattle. Senior Scientist Dr. Bobby Langan shows a video of one of his favorite deep-learning tools, used to create experimental cancer therapeutics. A fuzzy blob coalesces into a molecular model of a protein, its pastel atoms wrapping precisely around its target, a regulator of the immune response. "Ten to 15 years ago we were kind of out in the lunatic fringe," said Institute for Protein Design head Dr. David Baker *(pictured)*. "It's interesting to be at center stage now." [Read More](#)

Neurons That Track, Regulate Blood-Sugar Levels Are Found

UW Medicine



New research conducted by Dr. Michael Schwartz *(pictured)* and his team has discovered neurons within the brain which detect and respond to changes in the level of sugar within the bloodstream. Understanding how this blood-sugar detection system works and how these neurocircuits operate would give researchers and doctors greater insights into how our brains regulate our blood sugar and, perhaps, how to target them therapeutically to treat metabolic diseases like diabetes and obesity, according to the study authors. [Read More](#)

UW-Developed Dental Lozenge Could Provide Permanent Treatment for Tooth Sensitivity

UW News



"We see patients with hypersensitive teeth, but we can't really help them," said Dr. Sami Dogan *(pictured)*, a Professor of Restorative Dentistry at UW. "We have all these repair options available in the market, but they're all transient." So a few years ago, Dr. Dogan began working with a team of UW materials engineers who had set out to develop a natural protocol to rebuild lost tooth minerals, which they believed could also become permanent fix to this painful condition. [Read More](#)

Photo Gallery: Scenes from #DiscoverBMB in Seattle

ASBMBToday



The American Society for Biochemistry and Molecular Biology (ASBMB) hosted Discover BMB, the society's first stand-alone meeting in many years, March 25–28 at the Seattle Convention Center. The consensus: Good times and good science were enjoyed by all. Dr. Squire Booker of Pennsylvania State University received both the ASBMB Ruth Kirschstein Diversity in Science Award and the ASBMB–Merck Award. Drs. Odaelys Pollard *(pictured, left)* and Melissa Rowland–Goldsmith *(right)* of the ASBMB Science Outreach and Communication Committee lead a hands-on activity during Community Day. [Read More](#)

LSW Institute WIN Graduate TwinStrand Biosciences Raises \$10.3M

Life Science Washington



Seattle-based company TwinStrand Biosciences has raised \$10.3M, according to a filing with the Securities and Exchange Commission. A TwinStrand spokesperson said the close was part of a larger round. The filing shows TwinStrand is looking to raise an additional \$15.5M. TwinStrand was founded in 2015 and spun out of UW, and co-founded by Dr. Jesse Salk *(pictured)*. [Read More](#)

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📅 Upcoming Events in Seattle

July 17 - 18 8:00am	Cascadia Proteomics Symposium Institute for Systems Biology
July 19-July 20 8:00am	Jacob Green Charity Golf Classic The Golf Club at Newcastle
July 19 - 20 9:30am	New Multi-Modal Single Cell Technologies Enable Deep Profiling Into Human Immune Cell Development Online
July 26 5:30pm	Summer Nights Happy Hour Pacific Science Center
August 17 4:30 pm	Life Science Washington Annual Summer Social 2023 Life Science Washington

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📁 Science Jobs in Seattle

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