

Publications of the Week
Bioactive Site-Specifically Modified Proteins for 4D Patterning of Gel Biomaterials

 First Author: Jared Shadish | Senior Author: Cole DeForest *(pictured)*
 Nature Materials | UW


The authors introduce a modular and robust semisynthetic approach to reversibly pattern cell-laden hydrogels with site-specifically modified proteins. Exploiting a versatile sortase-mediated transpeptidation, they generated a diverse library of homogeneous, singly functionalized proteins with bioorthogonal reactive handles for biomaterial modification. [Abstract](#)

Cardiac Myosin Activation with 2-Deoxy-ATP via Increased Electrostatic Interactions with Actin

 First Author: Joseph Powers | Senior Author: Michael Regnier *(pictured)*
 PNAS | UW


The naturally occurring nucleotide 2-deoxy-adenosine 5'-triphosphate (dATP) can be used by cardiac muscle as an alternative energy substrate for myosin chemomechanical activity. Using dATP as a molecular probe, the authors showed that a restructuring of prepowerstroke myosin in the presence of 2-deoxy-adenosine 5'-diphosphate and inorganic phosphate increased actin-myosin electrostatic interactions and binding kinetics. [Abstract](#)

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Awards
Drs. Jeanne Ting Chowning, Denise Galloway Receive Seattle AWIS Awards

Fred Hutch



The Seattle-area chapter of the Association for Women in Science (AWIS) has selected two women from Fred Hutch to receive 2019 Seattle AWIS awards. Dr. Jeanne Ting Chowning *(pictured, left)* has been selected to receive the Excellence in STEM Education/Outreach Award. Dr. Denise Galloway *(right)* will receive the Science Advancement and Leadership Award. [Read More](#)

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Local News
Astronauts on the International Space Station Will Grow Probiotic-Rich Broccoli

ZME Science



NASA wants to expand its range of space veggies, but growing plants in microgravity is not the easiest thing in the world. Astronauts will start growing broccoli from six seeds that were placed aboard the Orbital ATK Cygnus spacecraft. Three of the seeds are regular seeds, while the other three were coated with two different species of bacteria, called probiotics, that were developed at UW. [Read More](#)

Vaginal Microbiome May Influence Preterm Birth Risk

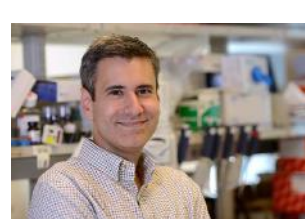
UW Medicine



The composition of the vaginal microbiome is an indicator of whether a woman will experience preterm birth, or carry the fetus full term, according to one of the largest studies of its kind. The researchers on this project collected vaginal microbiome samples from 1,500 women throughout the course of their pregnancies. Of those samples, about a third came from Washington state's Global Alliance to Prevent Prematurity and Stillbirth. [Read More](#)

Continuing a Legacy

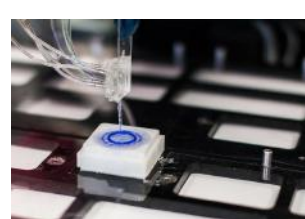
Fred Hutch



Ahmed Diab will be honored next week as one of the inaugural winners of the Dr. Eddie Mendez Award, which recognizes postdoctoral researchers in cancer biology who are from underrepresented minority groups. As Diab launches his career, continuing down a path that his mentor blazed, he will never forget how Eddie Mendez *(pictured)* helped him get to where he is today. [Read More](#)

First Steps to 3D-Printing Organs Accomplished at UW

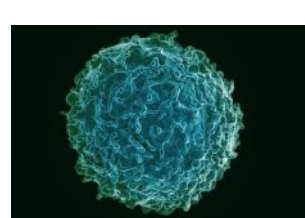
The Daily



The UW's Dr. Kelly Stevens, a Professor of Bioengineering, is leading a group of scientists and bioengineers in an effort to 3D-print organs. Though the technology to print usable organs is still far in the future, the group has been able to make significant strides by creating a biosynthetic material, creating synthetic liver tissue that was successfully implanted into mice, and by creating a proof-of-concept air sac that mimicked lung functions. [Read More](#)

Scientists Engineer B Cells to Produce Antibodies against Specific Viruses

Chemical & Engineering News



To treat viral diseases that have no working vaccine, a group of researchers at Fred Hutch have engineered immune cells to spit out specific antibodies that can fight off a host of infections, including respiratory syncytial virus and HIV. The research team took the DNA that encodes the monoclonal antibody palivizumab, and used CRISPR to add it to a specific region of a chromosome involved in creating antibodies in human B cells. [Read More](#)

New Study Identifies Patterns of Growth in Chronic Lymphocytic Leukemia

UW News



New research co-led by Dr. Ivana Bozic *(pictured)* from UW has found that chronic lymphocytic leukemia growth is apt to follow one of three trajectories: relentlessly upward, steadily level or something in between. The particular course the disease takes is tightly linked to the genetic makeup of the cancer cells, particularly the number of growth-spurring "driver" mutations they contain. [Read More](#)

Pursuing a Revolution in IBD Treatment

Benaroya Research Institute



Drs. Elisa Boden, James Lord and Michael Chiorean from Benaroya Research Institute are working to revolutionize inflammatory bowel disease (IBD) treatment by pursuing a precision medicine approach that could tailor treatment to individual IBD patients. They are performing research to identify biomarkers that can predict whether they respond to a specific drug. [Read More](#)

Study Aims to Confirm MRI's Ability to Detect Autism Early

UW Medicine



UW is among eight U.S. research sites undertaking a study to confirm whether brain imaging can detect signs of autism spectrum disorder in infants. A network of scientists will scan the brains of 250 children who have an older sibling with autism, looking for differences that predict which high-risk children are more, and less, likely to develop the condition. [Read More](#)

Inside the Adaptive Biotech IPO: How Two Brothers Built a Big Idea into a Breakthrough Company

GeekWire



Seattle-based Adaptive Biotechnologies is using the genetic code of the immune system in an effort to transform the diagnosis and treatment of disease. It is the first Seattle-area company to announce its IPO plans this year. On this episode of the GeekWire podcast, listeners get the inside story of Adaptive Biotechnologies and share what was learned in its IPO filing. [Read More](#)

Department of Commerce Awards \$1 Million to Support Small Businesses in Life Sciences and Health IT

Department of Commerce



The Washington State Department of Commerce has announced \$1 million in grants to The Washington Research Foundation, Greater Spokane Incorporated and Life Science Washington Institute to support small business development programs in the life sciences and health IT sector. "Nurturing innovators in the formative stages is critical for the long-term vitality of our life science and global health sector," said Commerce Director Lisa Brown. [Read More](#)

FDA Approves First Test for Zika in Human Blood

Medical Xpress



The first test to detect the Zika virus in human blood has been approved by the FDA. The test is called the ZIKV Detect 2.0 IgM Capture ELISA and is made by Seattle-based InBio, which makes tests for other viruses such as West Nile and dengue. Until now, the only FDA-approved tests for Zika were used to detect virus antibodies and were only for emergency use. [Read More](#)

New Diagnostic Will Help Propel Development of Improved Malaria Tests and Support Surveillance

PATH



PATH and Quansys Biosciences, Inc. have announced the launch of a new diagnostic tool designed to help researchers develop more sensitive and reliable malaria rapid diagnostic tests and to support public health surveillance. The Q-Plex™ Human Malaria Array is a quantitative immunoassay that simultaneously measures multiple malaria antigens. [Read More](#)

Adaptive Biotechnologies Files for \$230M IPO, Banking on Big Microsoft and Genentech Deals

GeekWire



Adaptive Biotechnologies, a high-flying startup that makes technology to read the human immune system, has officially filed to go public and seeks to raise \$230 million from investors. Founded in 2009 by brothers Chad and Harlan Robins, Adaptive Biotechnologies is a leader among a crop of Seattle-based biotech ventures. [Read More](#)

Band of Superheroes: Q&A with Lyn Grinstein

UW Medicine Magazine



UW Medicine Magazine interviewed Lyn Grinstein *(pictured)*, who chairs the Institute for Stem Cell and Regenerative Medicine Campaign Council, and is a member of the UW Medicine Campaign Initiatives Committee. Lyn and her husband Jerry received the 2018 Ragen Volunteer Service Award from UW Medicine and the 2015 Gates Volunteer Service Award from UW. [Read More](#)

'Like Looking at a Miracle': Baby Blossoms Thanks to Gene Therapy

Seattle Children's Hospital



Up until a few years ago, spinal muscular atrophy (SMA) type 1 was a fatal diagnosis. However, Dr. Fawn Leigh, a neurologist at Seattle Children's, says that gene therapy is transforming the way she and other specialists in the field manage care for babies with SMA type 1. Arabella Smygov received gene therapy and, now 7 months old, has accomplished skills once unheard of for babies with SMA. [Read More](#)

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Upcoming Events in Seattle

June 11 4:30 PM	2019 Spring SLU Collaborative Seminar Series: Immunology Allen Institute
June 11 7:00 PM	Science in the City: Coffee, Kangaroos, and Community: A One Health Approach Pacific Science Center
June 20 5:00 PM	Life Science Industry Networking Event Agora Conference Center
June 24 7:00 PM	Science on Tap: "My Adventures Among Wild Chimpanzees: Lessons on Our Closest Relatives" Ravenna Third Place - Cafe Arta
June 25 3:00 PM	Life Science Xchange: Closer to Convergence Cambria Grove

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Science Jobs in Seattle

- Vice President, Clinical Development Hematology**
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Zymeworks
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Fred Hutchinson Cancer Research Center
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Bluebird Bio
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