

**Publications of the Week**

### Early Cellular Innate Immune Responses Drive Zika Viral Persistence and Tissue Tropism in Pigtail Macaques

First Author: Megan O'Connor | Senior Author: Deborah Fuller *(pictured)*  
 Nature Communications | Washington National Primate Research Center, Fred Hutch, and UW



The immunological and virological events that contribute to the establishment of Zika virus (ZIKV) infection in humans are unclear. The authors show that robust cellular innate immune responses arising early in the blood and tissues in response to ZIKV infection are significantly stronger in males and correlate with increased viral persistence. [Abstract](#)

### Cas9 Immunity Creates Challenges for CRISPR Gene Editing Therapies

First Author: Julie Crudele | Senior Author: Jeffrey Chamberlain *(pictured)*  
 Nature Communications | Senator Paul D. Wellstone Muscular Dystrophy Specialized Research Center and UW



Concerns exist regarding the safety and efficacy of CRISPR-Cas9 use in gene therapy. A pre-print released prior to peer review has recently underlined the question of whether immunological responses to Cas9 may negatively impact its clinical use. The authors discuss the implications of this finding for the application of CRISPR/Cas in gene therapy. [Abstract](#)

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**Awards**

### Dr. Marie Bleakley Named Gerdin Family Endowed Chair for Leukemia Research

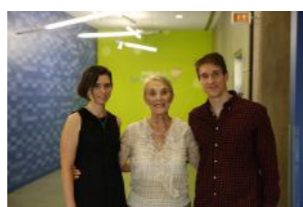
Fred Hutchinson Cancer Research Center



Dr. Marie Bleakley *(pictured)* has been awarded the first Gerdin Family Endowed Chair for Leukemia Research. The chair is funded by the generosity of the Gerdin Family Foundation and grew out of the family's deep respect for the physician who helped guide them through a dark time. Bleakley's research goal is to improve survival and decrease treatment side effects for patients, especially children, who have high-risk forms of leukemia. [Read More](#)

### Anat Zimmer and Tomasz Wilmanski Receive Inaugural K. Carole Ellison Fellowship

Institute for Systems Biology



Drs. Anat Zimmer *(left)* and Tomasz Wilmanski *(right)* have been awarded the inaugural K. Carole Ellison Fellowships in Bioinformatics. While Carole Ellison *(middle)* is responsible for the Institute for System Biology's (ISB) first-ever fully funded fellowship, her support of ISB has been steady for years, and was fueled by Dr. Lee Hood's pioneering work in P4 medicine and 21<sup>st</sup> century health care. [Read More](#)

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**Local News**

### DNA Accessibility, Gene Expression Jointly Profiled in Thousands of Cells

UW Medicine



Dr. Jay Shendure *(pictured)* has developed an assay that concurrently profiles both the epigenome and the transcriptome of each of thousands of single cells. The assay incorporates unique barcodes for the nucleic acid content of cells or of the cell nucleus. Their method for labeling and sorting cells lets them link the messenger RNA and chromatin accessibility profiles of individual cells. [Read More](#)

### Malaria Vaccine Work Deploys Parasite-Fighting Cells to Liver

UW Medicine



After an infected mosquito bite, malaria parasites travel from the bite site to the liver. For that reason, the liver has become the target of numerous efforts to develop a potential vaccine. Using a novel, liver-targeted vaccination strategy, researchers have reported the successful testing in mice of a tissue-specific malaria immunization. [Read More](#)

### Using Gene Therapy to Build an Immune System in Newborns without One

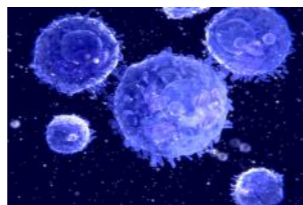
Seattle Children's Hospital



Children with severe combined immunodeficiency (SCID) have the best chance at a healthy future if they undergo a stem cell transplant before they are three and a half months old. Seattle Children's recently opened a clinical trial that is seeking a potentially safer, less aggressive and equally effective path to a cure by using a novel gene therapy to fix the faulty gene that causes the most common type of SCID. [Read More](#)

### Decoding Your Immune System's Memories

Fred Hutchinson Cancer Research Center



A recent study published by scientists at the Fred Hutchinson Cancer Research Center suggests that, with enough work, we can decipher the hidden messages that our immune systems have recorded. This is important because, if we could learn to decode this concealed knowledge, it could have enormous potential for diagnosing or treating disease. [Read More](#)

### University of Washington Spin-Out Raising Cash for More Accurate DNA Sequencing Technology

GeekWire



TwinStrand Biosciences, a spin-out of UW, is raising cash to commercialize DNA sequencing technology that it says can detect tiny genetic mutations invisible to current sequencers. TwinStrand's technology is called Duplex Sequencing. The approach duplicates and analyzes both strands of a DNA sample, effectively creating two samples that can be checked against each other to remove errors. [Read More](#)

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**Interesting Articles**

### US Senate Passes Spending Bill Granting NIH \$39.1 Billion

The Scientist



The US Senate recently passed a spending bill allotting \$39.1 billion to the National Institutes of Health (NIH) for the 2019 fiscal year starting on October 1. This is 5.4 percent, or \$2 billion, more than fiscal year 2018. The boost to the biomedical research agency is part of an \$854-billion funding "minibus" to support defense, labor, education, and health and human services. [Read More](#)

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**Upcoming Events in Seattle**

- September 11 7:00 PM **Science in the City: Reducing HIV Infection**  
Pacific Science Center
- September 12 8:30 AM **From the Laboratory to Leadership**  
Agora Conference Center
- September 19 6:00 PM **Association for Women in Science Monthly Chapter Meeting**  
Fred Hutchinson Cancer Research Institute
- September 24 6:00 PM **Science on Tap: Breast Cancer and CRISPR**  
Ravenna Third Place Bookstore
- September 26 8:30 AM **From the Laboratory to Leadership**  
Agora Conference Center

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Zymeworks
- Scientist, Molecular Biology for Stem Cell Engineering**  
Universal Cells
- Associate Scientist, Process Development**  
Systimmune
- Principal Medical Writer**  
Nohla Therapeutics

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**RE-CREATING DISEASE WITH KIDNEY ORGANOID AND CRISPR**

Featured webinar by **Dr. Benjamin Freedman**



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