

Publications of the Week

Distinct Neuronal Projections from the Hypothalamic Ventromedial Nucleus Mediate Glycemic and Behavioral Effects

 First Author: Chelsea Faber (*right*) | Senior Author: Gregory Morton (*left*)
 Diabetes | UW Medicine Diabetes Institute


The hypothalamic ventromedial nucleus (VMN) is implicated both in autonomic control of blood glucose and in behaviors including fear and aggression, but whether these divergent effects involve the same or distinct neuronal subsets and their projections is unknown. To address this question, the authors used an optogenetic approach to selectively activate the subset of VMN neurons that express neuronal nitric oxide synthase 1 implicated in glucose counterregulation.

[Profile](#) | [Abstract](#)

Gallium Disrupts Bacterial Iron Metabolism and Has Therapeutic Effects in Mice and Humans with Lung Infections

 First Author: Christopher Goss | Senior Author: Pradeep Singh (*pictured*)
 Science Translational Medicine | UW


The lack of new antibiotics is among the most critical challenges facing medicine. The metal gallium can disrupt bacterial iron metabolism because it substitutes for iron when taken up by bacteria. The authors investigated the antibiotic activity of gallium *ex vivo*, in a mouse model of airway infection, and in a phase 1 clinical trial in individuals with cystic fibrosis and chronic *Pseudomonas aeruginosa* airway infections. [Abstract](#)

IL-6: A Cytokine at the Crossroads of Autoimmunity

 First Author: Britta Jones | Senior Author: Jane Buckner (*middle*)
 Current Opinion in Immunology | Benaroya Research Institute


IL-6 is implicated in the development and progression of autoimmune diseases in part by influencing CD4 T cell lineage and regulation. The authors discuss recent studies investigating how IL-6 regulates the CD4 T cell response in the context of autoimmune disease and highlight how blocking different aspects of the IL-6 pathway is advantageous in the treatment of disease. [Abstract](#)

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Awards

Blood Researcher Receives NIH New Innovator Award

Institute for Stem Cell & Regenerative Medicine



The National Institutes of Health (NIH) has announced that stem cell biologist Sergei Doulatov (*pictured*), Assistant Professor of Medicine at the UW School of Medicine, will receive an NIH Director's New Innovator Award. The award is part of the NIH's High Risk, High Reward Research Program which allocates funding to support unusually inventive research by scientists in the early stages of their careers. [Read More](#)

Dr. Beverly Torok-Storb Wins Mentorship Award

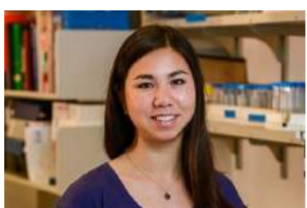
Fred Hutchinson Cancer Research Center



Dr. Beverly Torok-Storb (*pictured*) has received the first Oliver Press Award for Extraordinary Mentorship. Torok-Storb has founded and led several internship programs at Fred Hutch for high school students and undergraduates, with a focus on those from backgrounds that are underrepresented in science. She received the award at a symposium that was named in honor of Press, a Fred Hutch physician-scientist who died last year. [Read More](#)

Grad Student Andrea Lim Wins NCI Award to Study Cancer Metastasis

Fred Hutch Cancer Research Center



Andrea Lim (*pictured*), a fifth-year Molecular and Cellular Biology graduate student at Fred Hutch and UW, has won a National Cancer Institute (NCI) Predoctoral to Postdoctoral Fellow Transition Award. The award seeks outstanding graduate students with the potential for pursuing a career as an independent cancer researcher. Lim investigates the mechanisms of disseminated tumor cell quiescence regulation by the lymph node microenvironment. [Read More](#)

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Local News

New Effort Will Analyze Genes of Endangered Northwest Orcas

Kiro7 News



A new scientific effort will sequence the genomes of more than 100 southern resident killer whales using skin or other samples collected from live and dead orcas over the past two decades. The collaboration involves scientists with the National Oceanic and Atmospheric Administration's Northwest Fisheries Science Center, the nonprofit Nature Conservancy and BGI, a global genomics company. [Read More](#)

Turning Medical Hardship into an Opportunity to Help Others

The Seattle Times



UW junior Wade Washington (*pictured, left*) was just 15 when he got a call that changed his life: He was going to receive a kidney transplant. Today, Washington is thriving at UW, where he's getting closer to his goal of becoming a transplant surgeon. One major step has been participating in undergraduate research, which helps students gain critical skills and knowledge that prepare them for future careers. [Read More](#)

Major Advance Reported in Understanding Antibiotic Resistance

Genetic Engineering & Biotechnology News



Scientists at UW have discovered how pathogenic bacteria resist antibiotic treatment. Polymers that are abundant at chronic infection sites cause bacteria to aggregate by the depletion aggregation mechanism, which does not require biofilm formation functions. This depletion aggregation is mediated by entropic forces between uncharged or like-charged polymers and particles. [Read More](#)

UW Medicine Researchers Explore New Approaches to Treating Childhood Leukemia

Institute for Stem Cell & Regenerative Medicine



New research from Dr. Marshall Horwitz (*pictured*) at UW Medicine points to a potential new approach to treating acute lymphocytic leukemia (ALL). ALL is a blood cancer that occurs when the bone marrow makes too many white blood cells known as lymphocytes. The rapid growth of these immature stem cells impedes the development of healthy immune cells, compromising the body's ability to fight disease and infections. [Read More](#)

Mail-Order Medicine: The Research Behind the Flu Patch

The Daily



Researchers at the Infectious Disease Research Institute, a Seattle-based nonprofit that produces diagnostic tools and vaccines to solve global health challenges, are addressing government concerns about viral outbreaks in the US through the development of the flu patch. This unique method of delivering vaccinations makes healthcare more accessible to Americans and potentially people around the world. [Read More](#)

The Gut Microbiome and Brain Health

UW Medicine Memory & Brain Wellness Center



A healthy microbiome is a diverse microbiome. Shifts in the composition or function of the microbiome have been implicated in inflammatory bowel disease, autism, and blood cancers. Researchers are now discovering that a disrupted microbiome, in certain contexts, may contribute to Alzheimer's disease and related conditions that cause dementia. [Read More](#)

Inflammatory Marker Tied to Kidney Decline in Healthy Adults

UW Medicine



A large, multiethnic study of healthy individuals, led by Dr. Pavan Bhatraju, a Fellow in Pulmonary and Critical Care Medicine at the UW School of Medicine, has found that high blood levels of an inflammatory marker are linked with long-term decline of kidney function. The results may shed light on biological mechanisms that spur chronic kidney disease. [Read More](#)

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Upcoming Events in Seattle

October 16 7:00 PM	Science in the City: Storytelling through Analytics Pacific Science Center
October 17 7:00 PM	Science and a Movie: The Return of the Living Dead Central Cinema
October 18 5:00 PM	Life Science Industry Networking Event Agora Conference Center
October 22 - 24 8:00 AM	3rd Seattle Symposium on Health Care Data Analytics Hyatt Olive 8
October 23 7:00 PM	Science in the City: Breast Cancer: Deciding a Course of Action Pacific Science Center

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Science Jobs in Seattle

- Bioinformatics Engineer**
TwinStrand Biosciences
- Research Scientist 2**
UltraBio Technologies
- Research Lab Manager, Immunology**
Fred Hutchinson Cancer Research Center
- Research Technician I-II**
Benaroya Research Institute
- Lecturer, Genome Sciences**
UW Genome Sciences

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HOW CAN EVALUATING THE IMMUNO-ONCOLOGY POTENTIAL OF COMPOUNDS IN VITRO PREDICT CLINICAL OUTCOMES?

Webinar by Dr. Alison O'Mahony

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