SCIENCE in SEATTLE

STEMCELL™ TECHNOLOGIES

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Publications of the Week

PIXUL-ChIP: Integrated High-Throughput Sample Preparation and Analytical Platform for Epigenetic Studies

First Author: Karol Bomsztyk *(left)* | Senior Author: Thomas Matula *(right)*
Nucleic Acids Research | UW Medicine South Lake Union, the Institute for Stem Cell and Regenerative Medicine, and the Center for Industrial and Medical Ultrsound

The authors have developed a novel technology (termed 'PIXUL') utilizing an array of ultrasound transducers for simultaneous shearing of samples in standard 96-well microplates. They integrated PIXUL with Matrix ChIP ('PIXUL-ChIP'), which allows for fast, reproducible, low-cost and high-throughput sample preparation and ChIP analysis of 96 samples (cell culture or tissues) in one day. **Profile | Abstract**

Chiral DNA Sequences as Commutable Controls for Clinical Genomics

First Author: Ira Deveson | Senior Author: Tim Mercer *(pictured)*
Nature Communications | Altius Institute for Biomedical Sciences

A given DNA sequence and its opposing chiral partner sequence share many properties, such as nucleotide composition and sequence entropy. The authors demonstrate that chiral DNA sequence pairs also perform equivalently during molecular and bioinformatic techniques that underpin genetic analysis, including PCR amplification, hybridization, whole-genome, target-enriched and nanopore sequencing, sequence alignment and variant detection. **Abstract**

The Future of the GLP-1 Receptor Agonists

Author: Irl Hirsch *(pictured)*
JAMA | UW School of Medicine

The discovery of the enteric hormone glucagon-like peptide 1 (GLP-1), and subsequent demonstration that its physiologic actions to lower blood glucose levels can be extended to the treatment of type 2 diabetes, have been important therapeutic advances. Several recent cardiovascular outcome trials have generated increased interest in the GLP-1 receptor agonists class of diabetes drugs. **Abstract**

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Awards

Abigail Swann Named ESA Early Career Fellow

UW Department of Biology

Abigail Swann *(pictured)*, an Associate Professor in the UW Department of Atmospheric Sciences and the Department of Biology, has been named an Ecological Society of America (ESA) Early Career Fellow. ESA Early Career Fellows are early career members (typically chosen within eight years of receiving the PhD) who have begun making and show promise of continuing to make outstanding contributions to a wide range of fields served by ESA. **Read More**

Bing Brunton Awarded $7.5 Million MURI Grant

UW Department of Biology

UW Biology Assistant Professor Dr. Bing Brunton *(pictured)* has been awarded a MURI grant by the Department of Defense (DoD) to investigate neural-inspired sparse sensing and control for agile flight. The tri-service MURI program convenes teams of investigators to combine insights from multiple disciplines to both facilitate the growth of newly emerging technologies and address the DoD's unique problem sets. **Read More**

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Local News

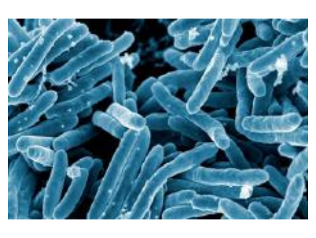
Here's Why Seattle Is the Country's Top Emerging Life Sciences Market

GeekWire

Seattle is the top emerging life sciences hub in the U.S., according to a recent report from commercial real estate firm CBRE. That's welcome news for an industry that has faced its share of ups and downs in the past decade. "This is a cluster that is over 20 years old and it's really maturing in a tremendous way," said Leslie Alexandre, President and CEO of Life Science Washington, a trade group. "We have lots more companies than we did previously." **Read More**

How Seattle Can Disrupt Tuberculosis

Project Syndicate



In the last decade, TB has started to get the attention it deserves, particularly among Seattle-based health organizations. Thanks to the work of these organizations – as well as the generosity and technical prowess of the Bill & Melinda Gates Foundation – doctors now have a new and more accurate test to diagnose TB, more potent drugs to cure drug-resistant strains, and a promising vaccine candidate. **Read More**

A New Technique to Make Beating Human Heart Cells Glow

Allen Institute for Cell Science

Allen Institute for Cell Science researchers have developed a new technique that will enable better understanding of human heart muscle cells. The method lays the groundwork for possible future studies of genetic cardiac defects and provides a key marker that could benefit cardiac regenerative medicine research. The technique could also be used to label structures specialized for other cell types, such as neurons, skin cells or liver cells. **Read More**

Water and Wastewater Disinfection Can Help Prevent the Spread of Antibiotic Resistant Bacteria, but What about Their Genes?

UW News

Few researchers have looked at whether disinfectants are effective in removing the genes that encode for the traits that make bacteria resistant to antibiotics. Some researchers are concerned that, even after treatment, non-resistant bacteria could still become resistant by picking up intact genes left over from damaged antibiotic resistant bacteria. **Read More**

Meet PNRI Scientist: Aimée Dudley

Pacific Northwest Research Institute

Dr. Aimée Dudley *(pictured)* is an expert in yeast genetics, and her lab at the Pacific Northwest Research Institute (PNRI) includes nearly a dozen equally driven researchers. From finding ways to combat drug resistant fungal infections to developing methods for rapidly determining whether mutations in a human gene are harmful, the Dudley Lab is a world leader in using yeast to address important biomedical problems. **Read More**

Alder BioPharmaceuticals Raises $170M in Stock Offering as FDA Reviews its Migraine Therapy

GeekWire

Alder BioPharmaceuticals has raised $170 million in a stock offering and is ramping up operations after filing an FDA application for eptinezumab, a therapy for patients with chronic migraines. Alder CEO Bob Azelby said the publicly-traded company is using the funds to invest in its supply chain, human resources, and IT and financial infrastructure. It also plans to build out a commercial representative team of 75 to 100 employees. **Read More**

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Interesting Articles

FTC Hits Predatory Scientific Publisher with a $50 Million Fine

ARS Technica

The Federal Trade Commission has won a summary judgement that just might cause some predatory publishers to step back from their business model. An India-based predatory publisher has been hit with a $50 million dollar judgement for deceptive business practices, along with permanent injunctions against most of the activities that made it money. **Read More**

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Upcoming Events in Seattle

April 16 7:00 PM	**Science in the City: Mysteries of the Deep – Seattle's Underwater Secrets** Pacific Science Center
April 23 6:30 PM	**Science in the City: Science of Sports and Entertainment – Acoustics at the New Arena** Pacific Science Center
April 24 - 25 8:00 AM	**Life Science Innovation Northwest** Washington State Convention Center
April 24 6:00 PM	**The Science of Green Chemistry and Engineering** Fred Hutchinson Cancer Research Center – Pelton Auditorium
May 2 8:00 AM	**Exploring Frontiers Seminar: Nature's Blueprint** Allen Institute

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Science Jobs in Seattle

Research Coordinator
Bloodworks Northwest

Research Scientist Engineer 3
UW Department of Genome Sciences

Senior Research Associate, Medicinal Chemistry
Gilead

Research Technician
Impel NeuroPharma

Principal Biostatistician
Zymeworks

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