

**Publications of the Week**

### Optogenetic Rejuvenation of Mitochondrial Membrane Potential Extends *C. elegans* Lifespan

First Author: Brandon Berry (*pictured*) | Senior Author: Andrew Wojtowich  
Nature Aging | UW



Mitochondrial dysfunction plays a central role in aging but the exact biological causes are still being determined. The authors show that optogenetically increasing mitochondrial membrane potential during adulthood using a light-activated proton pump improves age-associated phenotypes and extends lifespan in *C. elegans*.  
[Profile](#) | [Abstract](#) | [Press Release](#)

### High-Precision Mapping of Membrane Proteins on Synaptic Vesicles Using Spectrally Encoded Super-Resolution Imaging

First Author: Yifei Jiang | Senior Author: Daniel Chiu (*pictured*)  
Angewandte Chemie | UW



The spatial resolution of single-molecule localization microscopy is limited by the photon number of a single switching event because of the difficulty of correlating switching events dispersed in time. The authors overcome this limitation by developing a new class of photoswitching semiconducting polymer dots with structured and highly dispersed single-particle spectra. [Abstract](#)

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**Awards**

### WRF Welcomes New Cohort of Postdoctoral Fellows

Washington Research Foundation



Washington Research Foundation (WRF) has announced its sixth annual cohort of the WRF Postdoctoral Fellows. In 2023, 12 researchers will begin a three-year fellowship that will allow them to advance their careers and achieve key research goals. Dr. Melanie Anderson (*pictured*), who completed a doctorate in mechanical engineering at UW, is one of the recipients. [Read More](#)

### WRF Awards Additional \$1M to Fred Hutchinson Cancer Center Supporting Innovative Technology Commercialization Research in Life Sciences

Washington Research Foundation



Last year, Washington Research Foundation (WRF) and Fred Hutch launched a new collaborative funding program to advance technologies that can have a significant impact on improving the health of communities. Recently, five Fred Hutch researchers, including Dr. Patrick Paddison (*pictured*), received funding under the program. [Read More](#)

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**Local News**

### Targeting Tau, the Other Protein Behind Alzheimer's Disease

UW Medicine



Researchers at UW, led by Dr. Brian Kraemer, have identified a protein that appears to be crucial in forming abnormal collections of tau. The scientists showed that by blocking the gene required for the production of the protein it is possible to prevent the accumulation of tau in an animal model. The protein is called speckle-type POZ protein, or SPOP. [Read More](#)

### New Study from Benaroya Research Institute Identifies Mechanisms for How Two Air Pollutants Exacerbate Asthma in Urban Children

Benaroya Research Institute at Virginia Mason



Researchers at the Benaroya Research Institute have published findings concluding that in the absence of viral infection, elevated air quality index values are associated with asthma exacerbations and lowered lung function in children living in low-income urban neighborhoods. "Until now, the mechanism for how air pollution exacerbates asthma has been poorly understood," said Dr. Matt Altman, lead author on the study. [Read More](#)

### Promising Young Scientist: Seattle Children's Dana Jensen Has Come Full Circle

Brotman Baty Institute



Dana Jensen (*pictured, left*) was a patient at Seattle Children's for the first 19 years of her life, enduring as many as ten surgeries to help address a congenital disorder affecting the structure of her jaw. Nine years later at age 28, Jensen is a "model scientist," working alongside Dr. James Bennett (*right*) in his lab at Seattle Children's focusing on the research and treatment of pediatric vascular malformations. [Read More](#)

### A Promising New Approach to Stopping Type 1 Diabetes

Benaroya Research Institute at Virginia Mason (BRI)



What if the cure to type 1 diabetes (T1D) is hiding in your own cells? A team of researchers from BRI and Seattle Children's Research Institute have been asking this question for years – and it led them to develop a new type of therapy that could someday become a groundbreaking treatment for T1D and other autoimmune diseases. [Read More](#)

### Homing In on Inherited Colorectal Cancer Risk

Fred Hutch



Dr. Ulrike "Riki" Peters and her team are trying to help people — and their health care providers — better understand germline genetic risk, the kind you inherit from your parents, by identifying all the gene variants that can drive colorectal cancer. The investigators' immediate goal is to use this information to create tests based on germline DNA that help identify who's at high risk and who's not. [Read More](#)

### Working the Holidays at Fred Hutch

Fred Hutch



The holiday break is a time to pause and gather with family and friends, a time for reflection, a time for rest. But the Fred Hutch campus is not really at rest. A few hearty souls are at work. Mostly out of sight — you'd miss them if you weren't looking closely, but they are here keeping buildings secure, seeing patients, and pushing through experiments that can't wait. [Read More](#)

### Biotech Industry Leaders Share Cautious Optimism for 2023 amid Downturn and Layoffs

GeekWire



As the pandemic boom times fade for the life sciences industry, many CEOs in the Seattle area are re-assessing how to run a business. "Every company is having to adjust its strategy regardless of stage," said William Canestaro, Managing Director of the Washington Research Foundation. In Washington state, the response to the broader downturn is mixed, according to interviews with CEOs and other industry leaders. [Read More](#)

### The Genetics Behind Holiday Stress

Pacific Northwest Research Institute



There's no shortage of stressors in life, especially this time of year. In fact, the American Psychiatric Association recently reported that 31% of US adults say they expect to feel more stressed this holiday season compared to last year. Interestingly, how we respond to stress may have everything to do with our genes. [Read More](#)

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**Upcoming Events in Seattle**

- January 13**  
 9:00 am **Open Ephys Plugin Development Workshop**  
 Online
- January 19**  
 12:00 pm **Grant Writing Bootcamp Part II – Essentials for SBIR/STTR Proposals**  
 Online
- January 19**  
 7:30 pm **Ginny Ruffner with Dr. Jim Heath: The Intersection of Art and Science**  
 The Forum
- January 24**  
 4:00 pm **Research Roundtable with Dr. Anna Kuchina**  
 Online
- January 25**  
 12:00 pm **What Every Medtech Startup Leader Needs to Know About Attempting a Commercial Launch: Report from the Frontline**  
 Online

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**Science Jobs in Seattle**

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