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Publications of the Week

Structural Plasticity of D3-D14 Ubiquitin Ligase in Strigolactone Signaling

First Author: Nitzan Shabek | Senior Author: Ning Zheng *(pictured)*
Nature | UW

The strigolactones, a class of plant hormones, regulate many aspects of plant physiology. In the inhibition of shoot branching, the α/β hydrolase D14 interacts with the F-box protein D3 to ubiquitinate and degrade the transcription repressor D53. Despite the fact that multiple modes of interaction between D14 and strigolactone have recently been determined, how the hydrolase functions with D3 to mediate hormone-dependent D53 ubiquitination remains unknown. **Profile | Abstract**

The RecB Helicase-Nuclease Tether Mediates Chi Hotspot Control of RecBCD Enzyme

First Author: Susan Amundsen | Gerald Smith *(pictured)*
Nucleic Acids Research | Fred Hutchinson Cancer Research Center

In bacteria, repair of DNA double-strand breaks uses a highly conserved helicase-nuclease complex to unwind DNA from a broken end and cut it at specific DNA sequences called Chi. Chi hotspots regulate multiple RecBCD activities by altering RecBCD's conformation, which is proposed to include the swinging of the RecB nuclease domain on the 19-amino-acid tether connecting the helicase and nuclease domains. **Profile | Abstract**

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Awards

UW Professors Terrance Kavanagh, Jay Shendure Elected as Fellows of the AAAS

UW News

Dr. Jay Shendure *(pictured)*, UW Professor of Genome Sciences, and Dr. Terrance Kavanagh, UW Professor of Environmental and Occupational Health Sciences, are among 416 new fellows of the American Association for the Advancement of Science (AAAS). Election as a fellow of the AAAS is an honor bestowed upon members by their peers, in recognition of their efforts to advance science or its applications. **Read More**

UW-Led Philosophy Team Receives $1.5M Grant to Study the Ethics of Neurotechnology Research

UW News

UW researchers in the Center for Neurotechnology are studying how brain-computer interfaces affect whether patients feel they are in charge of their own actions. For this research, the team, led by UW Associate Professor of Philosphy Dr. Sara Goering, will receive $1.5 million from the National Institutes of Health over the next four years. **Read More**

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Local News

Epigenetic Map May Pave Way for New Therapeutic Solutions to Hearing Loss

Science Daily

Epigenetics is the expression and control of genes. The epigenetics involved in the inner ear is a critical part of the mystery of hearing. A collaboration involving researchers at UW and Tel Aviv University has now created the first map of "methylation" -- one of the body's main epigenetic signals -- that reflects the functioning of the inner ear in its entirety. **Read More**

Study Unveils 40 New Mutations Linked to Colorectal Cancer

Fred Hutchinson Cancer Research Center

The product of more than five years' work by scientists at 130 institutions, a new study led by Dr. Riki Peters *(pictured)* at Fred Hutch presents results from the most comprehensive genome-wide association study of colorectal cancer risk done to date. Among their findings: 40 new inherited mutations that put people at risk for colorectal cancer, which is the second-deadliest cancer in the world. **Read More**

Potential Seen for Tailoring Acute Myeloid Leukemia Treatment

Institute for Stem Cell & Regenerative Medicine

A study led by Dr. Pamela Becker, Professor of Medicine at the UW School of Medicine, has looked at the drug response patterns of stem cells and blast cells taken from individual patients diagnosed with acute myeloid leukemia. The study found that leukemia stem cells and blast cells diverged in their drug susceptibility patterns, and that these patterns differed from patient to patient. **Read More**

Immune Booster May Awaken Body's Defenses against Skin Cancer

Fred Hutchinson Cancer Research Center

Dr. Shailender Bhatia *(pictured)* and his team have been rallying the immune systems of patients with Merkel cell carcinoma against their cancer by directly injecting their tumors with an immune-boosting compound. After G100 intra-tumoral injection, anti-tumor responses were enhanced in several patients and five out of ten patients experienced tumor regression, including one complete response. **Read More**

Go Slow, Start Small with Genome Screening, Experts Urge

UW Medicine

Programs to screen the genomes of healthy adults to identify genes that may put them at risk for disease later in life need to be implemented with care so that they do not do more harm than good. "We need to be cautious and start small and go slow," said Malia Fullerton *(pictured)*, Associate Professor of Bioethics and Humanities at the UW School of Medicine. **Read More**

UW Researchers Use Machine Learning to Pursue Alzheimer's Treatment

The Daily

The Madrona Venture Group recently awarded the Madrona prize to the UW Embarker project team. The Embarker project uses machine learning to identify disease markers of Alzheimer's that can help researchers develop treatments. "This project combines cutting edge machine learning and big data mining," said UW Associate Professor and Embarker project Principal Investigator Su-In Lee. **Read More**

Spotlight on James Yurkovich, ISB Translational Research Fellow

Institute for Systems Biology (ISB)

Dr. James Yurkovich *(pictured)* joined ISB this summer as a Translational Research Fellow. The three-year Translational Research Fellows Program provides a unique opportunity for bench-to-bedside translational research with mentorship from experts in systems biology and clinical research. This Q&A with Yurkovich delves into his research interests, future aspirations, hobbies, and much more. **Read More**

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Interesting Articles

Ethical Concerns Surround Gene-Edited Babies

UW Medicine

The CRISPR babies saga has sparked an uproar among scientists and commentators worldwide by raising safety and ethical concerns. It's the first time a scientist has publicly claimed to have deliberately and permanently changed the genes in a human embryo that developed into an infant. Such changes could be passed down to future generations. Malia Fullerton, UW Associate Professor of Bioethics and Humanities provides context in this video. **Watch Now**

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Upcoming Events in Seattle

December 9 - 11 12:30 PM	**Metabolites as Signaling Molecules** Motif Seattle	
December 10 6:30 PM	**Women in Bio Annual Holiday Celebration** The Collective	
December 11 7:00 PM	**Science in the City: The Global Nature of Nursing** Pacific Science Center	
December 12 7:00 PM	**How Much Radiation Is Harmless?** Ada's Technical Books & Cafe	
December 14 9:00 AM	**Seattle Cell Science Symposium** Allen Institute	

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Fred Hutchinson Cancer Research Center

Associate Director, Single Cell Biology and Laboratory Automation
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