Highlights of the Year

Research

Hundreds of scientists working in Cold Spring Harbor Laboratory's 50-plus laboratory groups contributed to research that in 2018 was published in the world's major research journals. eir e orts re ect the full spectrum of this institution's scienti c activity in Cancer, Neuroscience, Plant Biology, Quantitative Biology, and Genomics. e following is a sampling of the year's important ndings.

Doubling the Number of Grains in Sorghum

SCLC tumors with low levels of neuroendocrine markers. Developing drugs that speci cally tar get the function of POU2F3 may be particularly e ective in the subset of patients with tumors that express high levels of this transcription factor.

Vakoc's team is now looking to do preclinical tests in mice to test compounds that target POU2F3.

Toward an Improved Wilson's Disease Drug

In collaboration with DepYmed Inc., a CSHL spinout company, Nicholas Tonks and his team conductm c

Emma Larson, a little girl who participated in the clinical trial to test the lifesaving spinal muscular atrophy (SMA) treatment drug that Krainer co-developed. Krainer received

Martienssen was recognized for his pioneering contributions to epigenetic mechanisms of gene

her risk of developing breast cancer later in life. By analyzing the epigenome in animal models of breast cancer, Dr. dos Santos's group has already established that pregnancy changes the epigenome of breast cells known as mammary epithelial cells.

CSHL Fellow Lingbo Zhang aims to extinguish myelodysplastic syndromes (MDSs) and was recognized by the Edward P. Evans Foundation with an EvansMDS Young In vestigator Award. is highly competitive award supports Zhang's translational research on MDS. Zhang is one of the rst researchers to receive this award, created to support the development of the ne9 (L F)13 (e)-5.86 (g)-0.6 (e)-14 (a)-25.7 ((l)-13.2 1341 >>BDC BT 0.002 Tw2.5 D

Education Highlights

Meetings & Courses Program

CSHL Meetings this year attracted 7,000 participants from more than 50 countries to the main campus. e 83rd Cold Spring Harbor Symposium, Brains and Behavior: Order and Disorder in the Nervous System, explored how fundamental brain research and technologies are translating to improved brain health and treatments for psychiatric and neurological disorders. -e sympo sium was supported by the Tianqiao & Chrissy Chen Institute. Single Biomolecules and Nutrient Signaling were new additions to the meetings program. e Evolving Concept of Mitochondria: From Symbiotic Origins to erapeutic Opportunities was the topic of the 10th meeting of the Genentech Center, History of Molecular Biology & Biotechnology series.

e Cold Spring Harbor Asia (CSHA) conference program drew 3,500 scientists to sympo sia, meetings, and Banbury-style discussions designed for scientists from the Asia/Paci c region. CSHL was pleased to sign a new partnership agreement with Suzhou Industrial Park to both ex tend and expand the commitment to operating meetings and courses on the Dush8.4 (s)-4 (u)-18L.6

WSBS entering Class of 2018

At the 2018 graduation ceremony, ve students were awarded Ph.D. degrees. Drs. David and Leon Botstein were awarded honorary degrees. David Botstein is a prominent geneticist, CSHL course instructor, and CSHL Trustee from 2003 to 2013. Leon Botstein was the youngest person appointed as college president in American history and currently is the President of Bard College and the music director of the American Symphony Orchestra.

From June through August, 20 undergraduates from around the world performed advanced research in the laboratory of a CSHL faculty member. In its 59th year, the annual immersive ex perience called the Undergraduate Research Program reaped intellectual as well as social rewards for the participants. e equally innovative Partners for the Future program brought gifted local high school students to CSHL labs for hands-on research experience.

DNA Learning Center

Just as a universal product code (UPC “barcode”) uses a unique set of bars to identify each con sumer product, a DNA barcode is a unique set of DNA “letters” that identi es each living thing.

Students and faculty swabbing snakes to collect microbiomes

of the highly selective journals published by the three partner organizations.

growth, doubling in size with 20,000 new submissions from more than 100 countries. Each month, papers on the server are read more than 4.5 million times and discussed in social networks and dedicated preprint assessment sites. The server is clearly accelerating science: 70% of bioRxiv manuscripts are shared for community evaluation as long as two years (median six months) before journal publication. Thirty journals now enable authors to simultaneously submit a manuscript and post it on bioRxiv, and 130 journals will accept automatic submission of preprints for editorial consideration. In 2018, an additional CZI grant made possible the conversion of all bioRxiv papers into XML format

John succeeded W. Dillaway Ayres, who helped lead this organization with distinction for 20 years, setting the highest of standards—but, more importantly, was a leader in maintaining the

Library and Archives

All educational and scholarly programs are now part of the Center for Humanities Studies of Molecular Biology, an interdisciplinary destination for historians, scholars, researchers, and artists to take advantage of the rich history found in the original materials in our archives for their humanities projects. The Center is also home to all Library and Archives–hosted events related to modern biology.

In August, the Center hosted *New York Times* columnist and science writer Carl Zimmer, who spoke about his new book, *She Has Her Mother's Laugh*. In October, the Center hosted a play about a major event in modern science history. The new play, *Message*, written by Keith Burridge, directed by Hal Brooks, and starring Broadway actors Brad Cover, Dominic Cuskern, and Rachel Botchan, was based on the discovery of messenger RNA (and written after Burridge's extensive research in our collections).

The Center has hosted two international meetings: a workshop on Historical Research on Model Organisms in Biology, and the annual History of Science meeting The Evolving Concept

- South Chiller Plant: emergency generator replacement. The emergency generator serving the Marks, James, and Freeman Laboratories suffered a catastrophic failure, requiring emergency replacement.
- James Laboratory: walkway replacement. The elevated walkway entrance to the James Laboratory had degraded over time, becoming unsafe for use. This walkway was reconstructed to current standards.
- Tiffany House: retaining wall. Laboratory had been managing drainage and water issues with the Tiffany House for a number of years. A major project was undertaken to construct a new retaining wall behind the house and to create sufficient drainage to protect the property.
- Housing Improvements. Laboratory continued its program of modernizing and improving its housing stock, with a number of renovations in the Robertson, Davenport, and Moore's Hill Road properties.

The Laboratory continued its ongoing program of researching and implementing energy conservation projects. These include both equipment and lighting retrofits with the intention of providing improved lighting and comfort at a lower cost and a reduced carbon footprint.

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venue, this series of talks is strictly for nonscientists. CSHL faculty presenters make a special e ort to avoid scienti c jargon and simply share their curiosity about the wonder of their science with our neighbors.

CSHL Public Presentations

February 11: Screening and discussion at Cinema Arts Centre in Huntington, NY, of *Evolution*

September 14: Argus Quartet, string quartet
September 28: Dominic Cheli, piano
October 12: