

Watson School 2013 graduates



Megan Bodnar

The Watson School of Biological Sciences, which administers the Ph.D. program of Cold Spring Harbor Laboratory, continues to turn out top-class students.

Megan Bodnar

Starr Centennial Fellow

The dynamics of pluripotency genes upon differentiation of mouse embryonic stem cells

Megan's interest lies in understanding how gene expression is regulated in early embryonic development. For her doctoral work in David Spector's laboratory she focused on several genes related to an embryonic stem cell's potential to become many different cell types. By looking closely at the movement of these genes within the cell nucleus, she was able to identify the DNA elements that allowed the two copies of each gene to "find" each other during differentiation. As Megan pursues a postdoctoral position, she says she feels "very lucky to have been exposed to a wide variety of people and scientific disciplines over such a short period of time."

Joseph Calarco

David Koch Fellow, NSERC Scholar

A system to study chromatin dynamics through pollen development

In Rob Martienssen's laboratory Joe studied the "tagging" of DNA by methylation, a process that he says is "one of the most well studied yet still misunderstood." His major breakthrough came when he was able to show that some of these tags are retained during the sexual reproduction of plant germ cells, unlike their complete genome-wide erasure in mammalian sperm cells. Joe is heading out to Stanford this summer to begin postdoctoral studies.



Saya Ebbesen

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Starr Centennial Fellow, NIGMS - NIH Trainee

RNAi mouse models of breast cancer tumor suppressor genes

"The lack of hierarchy, strong sense of community, and the integrated research-centered lifestyle" drew Saya to the Watson School. Under the mentorship of Scott Lowe she pursued the development of new mouse models of breast cancer that integrate RNA interference (RNAi) technology. In the course of her studies she found that in one mouse model of poor-prognosis breast cancer, the continued absence of a tumor suppressor gene is required for sustained growth of established mouse mammary tumors.

Eyal Gruntman

Elisabeth Sloan Livingston Fellow

Integration properties of Kenyon cells in the Drosophila melanogaster mushroom bodies

Eyal came from Israel to study at CSHL where, he said, "experiencing a four-season year for the first time in my life was a lot of fun." His studies in Glenn Turner's laboratory were concerned with the sense of smell, known as olfaction. Working with the fruit fly *Drosophila melanogaster*, his work focused on looking at a particular set of cells, Kenyon cells, in an area of the brain called the mushroom body. These cells receive different input impulses from the olfactory cells and are required in turn to trigger a "spike" or output impulse. Eyal moves on to a postdoctoral position at HHMI's Janelia Farm.



Joseph Calarco



Eyal Gruntman



Paloma Guzzardo

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Leslie C. Quick, Jr. Fellow, William Randolph Hearst Foundation Scholar, NIGMS - NIH Trainee

Identification and characterization of novel components of the Drosophila piRNA pathway

In Greg Hannon's laboratory small RNAs are the unifying research topic. Paloma's studies were concerned with a particular class of small RNAs known as the PIWI-interacting RNAs, or piRNAs, which are known to be important for maintaining genome integrity in the germline. In a large-scale approach, Paloma was part of a team that searched the whole genome of the fruit fly and found more than 80 genes that could be involved in piRNA production and their mechanism of action. Paloma is planning to do a postdoc in Europe but CSHL is such a special place and close-knit community that she was moved to say "I am positive that no other institute will be quite like it."



Felix Schlesinger



Maria Pineda

Maria Pineda

CSHL Women's Partnership for Science Student, William Randolph Hearst Foundation Scholar

Substrate specificity of receptor tyrosine kinases is critical for selective signaling

It was her interest in drug discovery that led Maria to join Raffaella Sordella's laboratory, which focuses on cancer research. In her thesis work Maria aimed to gain an understanding of how genetic mutations in proteins called receptor tyrosine kinases (RTKs) affect treatment response and survival differences in lung tumors. Supporting the idea that biological functions are the result of complex interconnected networks, she found that certain RTKs modify a

single target protein such as SOCS3 in different ways. On her future plans Maria said "I want to pursue opportunities that will combine my skills in science and business while having a major impact in healthcare."

Felix Schlesinger

Crick-Clay Fellow

Discovery and classification of transcription at cis-regulatory elements

Felix's overall goal during his thesis studies in Thomas Gingeras' laboratory was to better understand how gene regulation is encoded in the human genome. Using computational analyses in a bioinformatics approach, he developed methods for the identification of novel non-protein-coding RNAs and clues to their regulation. His work formed part of the massive collective effort known as the Encyclopedia of DNA elements (ENCODE). Felix is joining Illumina as a Bioinformatics Scientist, but will miss "the great scientific discussion at the CSHL bar after meetings and seminars."

Petr Znamenskiy

David and Fanny Luke Fellow

Role of corticostriatal projections in auditory discrimination

Petr's research in the laboratory of Professor Tony Zador focused on determining the connections between the auditory cortex and other parts of the brain. "The auditory cortex provides a map of sound frequency, and these connections may be important in making judgments about the properties of sounds, e.g., pitch." Petr now moves on to a postdoc at the University of Basel, Switzerland, but will miss the people and camaraderie of CSHL and the Marks building in particular.



Petr Znamenskiy