

Darwin Day Lecture  
Friday, February 9, 2018, 7:30 P.M.  
Earth and Space Sciences 001

## **“What Darwin Didn’t Know”**

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Biology  
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### **SUMMARY**

When Darwin articulated his grand theory of evolution by natural selection in 1859, he was still missing one crucial piece: while he recognized that offspring resembled their parents, he didn’t know how this information was transmitted from one generation to the next. In the last 150 years, not only has DNA been discovered as the carrier of genetic information, but we are increasingly able to link specific genes to the traits that they encode. Now, we can study how traits evolve – as Darwin did – but also find evidence for evolution at a once unimaginable level: in DNA, genes and genomes. In this presentation, I will tell you about our work studying evolution in action – by combining experiments in both the lab and the field – linking genes to traits and ultimately to survival.

### **BIOGRAPHY**

Hoekstra is an evolutionary geneticist who studies the molecular basis of adaptation in wild mice. Since 2006 she has been an Alexander Agassiz Professor of Zoology at Harvard University. She became a Howard Hughes Medical Institute Investigator in 2013, and in 2016, she was elected into the National Academy of Sciences. In 1994, Hoekstra received her B.A. with Highest Honors at the University of California Berkeley and got her PhD in Zoology at the University of Washington in 2000. She was a NIH NRSA Fellow at the University of Arizona, and then an assistant professor at UC San Diego before joining the faculty at Harvard. She is an internationally renowned biologist who has made major strides in developing an approach that connects evolution in the wild to mechanisms at the molecular level.

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