



Department of Genetics

Nanocourse Announcement

CRISPR Gene Editing for Studying Disease Pathology and Treating Human Disease

Session 1: November 7, 2019

9AM- 12PM, HMS Cannon Room Building C

Session 2: November 12, 2019

1–5 PM, Registered participants only

John Doench, Ben Kleinstiver, Kiran Musunuru

Second session: Luca Pinello, Becca Cottman, and
John Yee-Ting Hsu

Clustered regularly interspaced short palindromic repeat (CRISPR) RNAs and their CRISPR-associated (Cas) proteins are an important part of adaptive immune systems in many prokaryotes. CRISPR-Cas systems function as RNA-directed endonucleases that can target nucleic acids in a sequence-specific manner and are now widely used as genome editing tools. In this course, we will provide lectures covering: an introduction to genome editing and cutting-edge improvements to CRISPR-Cas systems; a review of bioinformatics tools for guide RNA design and analysis of CRISPR-Cas data; and an overview of ongoing and potential therapeutic applications of genome-editing nucleases. The course will also include a practical lab-based workshop for registered students in which participants will learn how to design guide RNAs and how to quantify nuclease-induced mutations in any cell or organism using sequencing-based assays.

All are welcome to attend the first session (registration necessary for second session).

Register at <https://curriculumfellows.hms.harvard.edu/classes>