



Department of Genetics

Nanocourse Announcement

Functional Genomics and Screening

Wednesday, January 28th, 2015
1:00 pm - 4:30 pm
Harvard Medical School, TMEC 227

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Cultured cells provide a powerful system for studying fundamental problems in topics such as signal transduction, cell differentiation and physiology. Several approaches can be used to interrogate gene function at genome-wide scale in cultured cells, including established techniques such as RNA interference (RNAi) and over-expression, and newer techniques such as the use of miRNA mimics and inhibitors. In addition, the new genome engineering technologies, including the CRISPR/Cas system, can be used to modify cell lines (e.g. for assay development), to screen at high-throughput, and to follow up on screen candidates. This nanocourse will introduce the types of cell-based assays that can be performed at high-throughput scale; the types of reagents and genome-scale reagent libraries available to interrogate protein-coding and non-coding genes; and how bioinformatics and experimental approaches are used to analyze, verify and validate screen data. We will discuss advantages and caveats to the approaches presented, as well as discuss how RNAi and the CRISPR/Cas system can be used in a complementary fashion to interrogate specific cell functions and generate high-confidence results.

All are welcome. No registration is required.
See nanosandothercourses.hms.harvard.edu for a complete nanocourse schedule.