Online Teaching Opportunity - HMX Pro: Gene Therapy

HMX is looking for members of the research and clinical communities at Harvard Medical School and the affiliated hospitals who are interested in gaining experience in online education to join our team. **This is a fully remote opportunity with flexible hours and competitive compensation, beginning in September 2022.**

HMX offers fully online courses intended for students interested in health care careers as well as professionals working in life science and health care related careers. More information about our courses can be found here: [https://onlinelearning.hms.harvard.edu/hmx/courses/](https://onlinelearning.hms.harvard.edu/hmx/courses/). We are currently staffing a course on **Gene Therapy** that is part of our HMX Pro Genetics series.

We are looking for researchers and clinicians to support our students' learning by answering questions about the course content in the discussion forums. Applicants should be able to demonstrate teaching experience, as well as in-depth knowledge in this topic area, including relevant research or clinical experience. **We welcome applications from postdoctoral and clinical fellows, as well as advanced graduate and medical students.**

Successful candidates will be part of a team of moderators with diverse areas of scientific and clinical expertise, who moderate HMX courses in genetics, pharmacology, immunology, biochemistry, and physiology. The workload for each moderator will vary but generally will be around 5 hours per week, which can be done remotely at flexible hours. Responsibilities for each course will be shared across multiple moderators, providing additional flexibility for busy schedules.

These courses run quarterly (January, April, June, and September), with the upcoming session beginning in September 2022. We prefer applicants interested in remaining with the team for multiple course sessions. For longer-term team members, there may be additional opportunities to provide feedback on and develop course content, or to participate in other collaborations with HMX.

To apply, please email YeaRim Oh (yearim_oh@hms.harvard.edu) with your current CV, a cover letter describing your interest in moderating the gene therapy course. **There are a limited number of spots and applicants will be reviewed on a rolling basis.**
HMX Pro - Gene Therapy

Course description

With all the advances in science and with closer collaboration between different scientific disciplines, gene therapy has become a promising treatment option for some genetic conditions and is being heavily investigated for many others. Therefore, learning about gene therapy and how it’s done has important implications for anyone working in health care and related sectors.

In this course, we will cover some of the fundamental concepts of gene therapy. You will learn about the basics of gene therapy, including the different modalities, critical terminology, and fundamental components of a gene therapy vector, as well as more advanced topics including how in vivo and ex vivo gene therapies are developed and delivered in the clinic. You will learn about the challenges facing the field as well as some of the ways in which they are being addressed to make gene therapies safer and more effective for patients.

This advanced course offers a unique way for professionals to learn from leading Harvard Medical School faculty about gene therapy and about the advances happening in this field that are ultimately helping to improve the treatment of certain genetic diseases.

Course topics

Lesson 1: Overview of Gene Therapy
- Introduction to Gene Therapy
- The Promise of Gene Therapy

Lesson 2: Introduction to Gene Therapy
- Overview of Gene Therapy
- Gene Therapy Vectors
- Vector Considerations
- Vector Design and Construction
- Gene Editing
- Gene Therapy Challenges

Lesson 3: Ex Vivo Gene Therapy
- Ex Vivo Gene Therapy Indications
- CAR T Cell Therapy
- Vectors for Ex Vivo Gene Therapy
- Conditioning
- Insertional Oncogenesis
Lesson 4: *In Vivo* Gene Therapy
- *In Vivo* Gene Therapy Indications
- Vectors for *In Vivo* Gene Therapy
- Delivery of *In Vivo* Gene Therapy
- Challenges of *In Vivo* Gene Therapy

Lesson 5: Wrap-up
- The Future of Gene Therapy