

IAP 2020

For Credit

7.102 -- Introduction to Molecular Biology Techniques

January 13 – 29, daily from 12:30-5 p.m.

Building 68, Room 089

Level: U | 6 units (0-5-1) | Can be repeated for credit.

Instructors: Prof. [Cathy Drennan](#), Dr. [Mandana Sassanfar](#)

This intensive 2-week “boot-camp” style course will provide hands-on instruction in basic molecular biology and microbiology techniques including sterile techniques, isolation and quantification of nucleic acid (DNA) and protein, agarose and SDS-PAGE gel electrophoresis, PCR, Cloning, microscopy, DNA sequence analysis, and bioinformatics. In addition students will learn to classify bacteria based on their shape, membrane structure and metabolism. Emphasis will be on real-world application, experimentation and trouble shooting in preparation for a successful UROP experience. This lab course will improve students’ troubleshooting and problem-solving skills. As in a real lab situation, some experiments will take longer than expected, or will need to be repeated. Priority will be given to freshmen with no prior research experience and 5-7 majors doing 5-7 lab track 1.

Students will be expected to spend every afternoon from 1-5pm in the lab. Labs may start earlier on some days.

Apply by December 9, 2019 by [filling out this form](#) and emailing it to [Dr. Mandana Sassanfar](#). The class is limited to 16 students. No listeners. Do not preregister on WebSIS. Applicants will be informed by December 15.

Non-Credit

7.S390 -- Pre-7.01 at MITx: Getting up to Speed in Biology

This course opens January 22 and is self-paced.

Level: U | Credit: None

Instructors: [Prof. Hazel Sive](#) and [Dr. Diviya Ray](#)

Pre-7.01 provides background highly useful for succeeding in 7.01 Introductory Biology. It includes cell biology, biochemistry, molecular biology, genetics and DNA engineering. Pre-7.01 is designed for students with little Biology background, including seniors who have not yet completed the 7.01 GIR, and need a refresher course. This online subject includes lectures with practice problems, additional assessments and an exam.

You can find Pre-7.01r/Getting up to Speed in Biology in the [MITx Course Catalog](#). Students must first register in order to be able to access the link.

A self-assessment quiz is included to indicate whether this subject will be useful to you. Please contact [Prof. Sive](#) or [Dr. Ray](#) with questions.

Inclusive Classrooms: How to Leverage Identity to Improve your Teaching Practice

This is a workshop designed to help members of the MIT community improve their teaching skills by learning to foster inclusive environments for their students. Attendees will be asked to consider how their own identities influence their roles as instructors and mentors, and reflect upon how preparations for the first day of class can set the tone for an inclusive classroom year-round.

Instructors:

[Darcy Greer Gordon](#), Postdoctoral Associate, MITx Biology Digital Learning Lab

[David Bergsman](#), Postdoctoral Associate, Research Laboratory of Electronics

In this interactive 3 hour workshop, you will learn how to:

- articulate the intersectional identities you hold,
- identify how different teaching practices can be received by diverse audiences,
- assess strategies that promote inclusivity starting with the first day of class, and
- create an action plan to address inclusivity in your classroom.

This workshop is supported by [qtPhDs](#), in collaboration with the Postdoctoral Association, the Committee on Race and Diversity, and the School of Science Quality of Life Program.

Register for one of the two sessions offered here:

Registration link: <https://forms.gle/YzQSJSTy7YBUH8BA6>

Limited to 30 participants in each session.

Session #1: Wednesday, January 15th, 9:00am-12:00pm, 68-121

Session #2: Wednesday, January 22nd, 1:00pm to 4:00pm, 68-121

Microbes in Health and Disease

Chemical Biological Investigations of Infection

Thursday, January 9th, 3–4 pm Whitehead Institute, McGovern Auditorium

Deborah Hung

Core Member and Co-Director of the Infectious Disease and Microbiome Program, Broad Institute of Harvard & MIT

Associate Professor, Department of Genetics, Harvard Medical School

The Microbiome's Impact on Colorectal Cancer

Tuesday, January 14th, 1–2 pm Koch Institute Auditorium, 76-156

Matthew Meyerson

Professor of Pathology, Dana-Farber Cancer Institute, Harvard Medical School

Director, Center for Cancer Genome Discovery, Dana-Farber Cancer Institute

Member, Broad Institute of Harvard & MIT

Microbiome in Inflammatory Bowel Disease

Thursday, January 16th, 3–4 pm, Koch Institute Auditorium, 76-156

Ramnik Xavier, Core Member, Broad Institute of Harvard & MIT

Kurt J. Isselbacher, Professor of Medicine, Harvard Medical School

Modulation of Gut Inflammation by Glycolipids from the Microbiome

Wednesday, January 29th, 3–4pm Whitehead Institute, McGovern Auditorium

Dennis Kasper, William Ellery Channing Professor of Medicine and Professor of Immunology, Harvard Medical School

Taking the Next Step in Academic Science

Tips in K99 Grant Writing

Wednesday, January 8th, 1-2pm, 68-181

Pau Creixell, Postdoc, Koch Institute

Nora Kory, Postdoc, Whitehead Institute

Rebecca Lamason, Assistant Professor, MIT

Pulin Li, Assistant Professor, Whitehead Institute, MIT

The NIH K99-R00 Pathway to Independence Award is an early career grant awarded to postdocs and provides financial assistance to those transitioning to independent faculty positions. Join us for a panel from both postdocs and current professors who have received the K99 award for advice on how to approach the grant application process.

How to Find a Postdoctoral Position

Wednesday, January 15th 1-2:30 pm, 68-181

Christopher Brennan, Postdoc, Pfizer

Ian Campbell, Postdoc, Harvard Medical School

Kristin Knouse, Whitehead Fellow, Whitehead Institute

Are you considering doing a postdoc, but uncertain about academia vs industry? Come learn about how to choose and the differences in experiences and career trajectories between them.

How to Craft a CV and Resume

Tuesday, January 21st, 2-3pm, 68-181

Robert Dolan, Assistant Director for Postdoctoral Scholars, MIT Career Advising & Professional Development

How to craft your professional CV/resume to present the best version of yourself.

Finding and Managing a Faculty Position

Wednesday, January 29th 4–5:30pm, 68-181

Naama Kanarek, Assistant Professor, Harvard University

Miyeko Mana, Assistant Professor, Arizona State University

Dan Jarosz, Associate Professor, Stanford University

Anders Hansen, Assistant Professor of MIT Department of Biological Engineering

Mansi Srivastava, Associate Professor at Harvard University

Beginning a career as an independent investigator and faculty member studying biology can be exciting, yet challenging. In the panel discussion, our speakers will share some of the unwritten rules and tips that they have learned and wished had known when they embarked on their academic career and job search. We aim at providing information that will make each candidate better prepared for the job search and take optimal advantage of any opportunity.

A Sampling of Careers in Science

Science Communication

Tuesday, January 7th, 1-2:30 pm, 68-181

Justin Chen, External Affairs Associate, OpenBiome; MIT Bio PhD '18; AAAS Mass Media Science & Engineering Fellowship '18

Christina Couch, Freelance science writer, MIT Science Writing Program

Erica Kimmerling, Founder and Director of Operations, BitScis; AAAS Hellman Fellow for Science and Technology Policy, Tufts PhD

Science is communicated to entertain, inform, and persuade diverse audiences through many types of media. In this panel, three professionals at different stages of their careers and with different backgrounds and training will share their experiences communicating science on a daily basis.

What to Do When You Don't Know What You Want to Do

Monday, January 13th 2–3 pm, Koch Institute Auditorium, 76-156

Priya Budde, Senior Corporate & Foundations Relations Officer, Whitehead Institute

Joey Davis, Whitehead Career Development Professor, MIT Biology

Olesya Levsh, Associate, The Engine

Panelists reflect on the aspects of their graduate education and post-grad experiences that influenced their future career goals.

How to Start and Run a Small Biotech Company

Wednesday, January 22nd, 1-2pm, 68-181

Isaac Stoner, Chief Operating Officer, Octagon Therapeutics

Eric Kelsic, Chief Executive Officer, Dyno Therapeutics

James Italia, VP of Commercial Development and Technical Founder, BrickBio

Many students and postdocs at MIT are interested in creating startups for the development of new and revolutionary technologies. Creating a biotech startup is not easy and requires substantial financial capital, laboratory space, and highly skilled co-workers. Our speakers have solved these issues by taking advantage of unique opportunities that are available for startup founders in Boston and Cambridge area. They will share their experiences and provide valuable advice to aspiring biotech entrepreneurs. Networking with our speakers and lunch provided before the talks.

Careers in Big Pharma Companies

Tuesday, January 28th, 4-5pm, 68-181

Christopher Tehlirian MD, Senior Medical Director, Pfizer Inc.

Jeremy Jenkins, PhD, Head of CBT Data Science, Novartis Institute for Biomedical Research

Dina Sah, ex-Chief Scientific Officer, Voyager Therapeutics

Nenad Grmusa, Head of External Innovation, Takeda

Big pharmaceutical companies offer a wide variety of careers that are of interest to students and postdocs at MIT. From basic and translational research, to clinical trial management and business operations, opportunities at big pharma can be a great career path for graduating students and postdocs. Our speakers will share their experiences working in the big pharma sector and provide valuable career advice to those interested in pursuing this path. Following the talks, you can join us for a career-networking night at the Koch Institute auditorium, co-organized by MIT Biotech Group and Biology Graduate Student Council.