Cellular and Molecular Immunology - AY2019

Jump to Today

Welcome to HST.175: Cellular and Molecular Immunology.

Although this is an introductory immunology course, we will deal with the subject in quite some detail, which will build as the course progresses. Immunological aspects of disease will be covered in the classroom as well as in case-based tutorial sessions.

Meeting place:

The course will meet on Wednesdays and Fridays through the fall, generally from 9 AM to 12 noon, at the Ragon Institute (https://www.google.com/maps/place/Ragon+Institute/@42.3639843,-71.0940674,17z/data=!3m1!4b1!4m5!3m4!1s0x89e370f7af18ac25:0xff1e9e7aae81da6c!8m2!3d42.3639843!4d-71.0918734) at 400 Technology Square in Cambridge in the first floor auditorium. On seven Wednesdays, tutorial sessions on clinical cases will commence in the tutorial rooms on the 7th, 8th and 9th floors of the Ragon Institute at 9AM and the class will reconvene in the auditorium at 10:30 AM. On four additional Wednesdays and Fridays, paper discussion sessions will commence in paper discussion rooms at 9AM for one hour.

The Ragon Institute is on the MIT campus. To reach the Ragon from the Harvard Medical School campus, you can take the M2 shuttle (free to Harvard ID holders) to the stop outside of MIT and walk down Vassar or Albany streets and take a left on Main Street. Other options by public transportation include taking the T to the Kendall/MIT T stop or taking the CT2 bus from Longwood to Broadway Street.

Tutorials:

Apart from the lectures there will be seven tutorial sessions at which attendance is required. At these sessions immunologically relevant clinical cases will be discussed. You are responsible for completing the first page of the case, which can be found on Canvas, and turning it in to the TA via email for grading. The goal will be to use these sessions to review and revise basic immunological issues as well as to get a feel for disease processes. There will be five tutorial groups each of which will be led by a faculty tutor (see schedule for details). Students and individual tutors will remain in the same tutorial group for the duration of the course.

Paper Discussions:

There will be four paper discussions throughout the term (see schedule for details). Students will be divided into four groups, each led by an MD/PhD or PhD student studying the immune system, to help you apply the basic science concepts you learn in the course to current research topics. Each of the papers is on Canvas. Attendance at these sessions is required and a summary of the paper for the given day will be due at midnight the night before the paper is discussed. Please send it to your paper discussion leader. Come prepared to discuss the papers!

Accessing the website:

https://canvas.hms.harvard.edu/ If you have any problems with Canvas access, please email the course TAs, Abigail Schiff (abigail_schiff@hms.harvard.edu (mailto:abigail_schiff@hms.harvard.edu)) and Sara

Rubin (sara_rubin@hms.harvard.edu (mailto:sara_rubin@hms.harvard.edu)).

Quizzes / Examinations/ Grades:

One short quiz and one problem set are planned early in the course to facilitate acquisition of the "language of immunology". There will be a midterm as well as a final examination (short answers and brief essays). Grades will be based primarily on performance in the quizzes and examinations.

Textbooks and Syllabus:

A “basic” textbook and a clinical textbook are recommended. The recommended books are “Cellular and Molecular Immunology” by Abbas, Pillai and Lichtman, 9th edition (https://www.elsevier.ca/ISBN/9780323479783/Cellular-and-Molecular-Immunology (https://www.elsevier.ca/ISBN/9780323479783/Cellular-and-Molecular-Immunology)), and “Case Studies in Immunology” by Rosen and Geha.

An electronic version of the Abbas, Pillai, and Lichtman book is available through the HMS Countway Library. To access it, go to www.countway.harvard.edu (http://www.countway.harvard.edu/) , and under "Search the digital library" type the "Cellular and Molecular Immunology" and click "eBooks". That should take you to a link to Clinical Key, where you can read the textbook online.

Reading of textbook chapters before the class is strongly recommended. The 9th edition of “Immunobiology” by Janeway, Travers, Walport and Capra may also be used.

Course Summary:

Date	Details	
Wed Sep 5, 2018	An Overview of the Immune System-Pillai (https://canvas.hms.harvard.edu/calendar?event_id=41716&include_contexts=course_1104)	9am to 10:45am
	Review-Pillai (https://canvas.hms.harvard.edu/calendar?event_id=41718&include_contexts=course_1104)	10:45am to 12pm
Fri Sep 7, 2018	Innate Immnity I- Pillai (https://canvas.hms.harvard.edu/calendar?event_id=41753&include_contexts=course_1104)	9am to 10:45am
	Review and Overview of Adaptive Immunity- Pillai (https://canvas.hms.harvard.edu/calendar?event_id=41754&include_contexts=course_1104)	10:45am to 12pm
Wed Sep 12, 2018	Innate Immunity II-Pillai (https://canvas.hms.harvard.edu/calendar?event_id=41757&include_contexts=course_1104)	9am to 10:45am
	Review: Cells/Tissues of the Immune System-Pillai (https://canvas.hms.harvard.edu/calendar?event_id=41756&include_contexts=course_1104)	10:45am to 12pm

Date	Details	
Fri Sep 14, 2018	Antibodies and Antigens-Pillai (https://canvas.hms.harvard.edu/calendar?event_id=41755&include_contexts=course_1104)	9am to 10:35am
	Copy of Review: Cells/Tissues of the Immune System-Pillai (https://canvas.hms.harvard.edu/calendar?event_id=41758&include_contexts=course_1104)	10:35am to 12pm
Wed Sep 19, 2018	MHC and Antigen Receptors I-Pillai (https://canvas.hms.harvard.edu/calendar?event_id=41759&include_contexts=course_1104)	9am to 10:35am
	Antigen Presentation-Pillai (https://canvas.hms.harvard.edu/calendar?event_id=41760&include_contexts=course_1104)	10:35am to 12pm
Fri Sep 21, 2018	Quiz I-Pillai (https://canvas.hms.harvard.edu/calendar?event_id=41761&include_contexts=course_1104)	9am to 9:15am
	B Lymphocyte Development-Pillai (https://canvas.hms.harvard.edu/calendar?event_id=41762&include_contexts=course_1104)	9:15am to 10:35am
	T Cell Development-Pillai (https://canvas.hms.harvard.edu/calendar?event_id=41763&include_contexts=course_1104)	10:35am to 12pm
Wed Sep 26, 2018	Tutorial Group I-Brennan, Cherayil, Horwitz, Kwon, Mansour (https://canvas.hms.harvard.edu/calendar?event_id=41764&include_contexts=course_1104)	9am to 10:35am
	Case Presentation I-Perugino (https://canvas.hms.harvard.edu/calendar?event_id=41765&include_contexts=course_1104)	10:35am to 12pm
Fri Sep 28, 2018	Paper Discussion I-Pillai (https://canvas.hms.harvard.edu/calendar?event_id=41766&include_contexts=course_1104)	9am to 10am
	Case Presentation II-Wesemann (https://canvas.hms.harvard.edu/calendar?event_id=41767&include_contexts=course_1104)	10:15am to 12pm
Wed Oct 3, 2018	Tutorial Group II-Brennan, Cherayil, Horwitz, Kwon, Mansour (https://canvas.hms.harvard.edu/calendar?event_id=41768&include_contexts=course_1104)	9am to 10:35am
	B Cell Activation I-Pillai (https://canvas.hms.harvard.edu/calendar?event_id=41769&include_contexts=course_1104)	10:35am to 12pm
Fri Oct 5, 2018	B Cell Activation II-Pillai (https://canvas.hms.harvard.edu/calendar?event_id=41770&include_contexts=course_1104)	9am to 12pm
Wed Oct 10, 2018	Tutorial Group III-Brennan, Cherayil, Horwitz, Kwon, Mansour (https://canvas.hms.harvard.edu	9am to 10:35am

Date	Details	
	/calendar?event_id=41771&include_contexts=course_1104)	
	Lymphocyte Activation and Costimulation-Pillai (https://canvas.hms.harvard.edu/calendar?event_id=41772&include_contexts=course_1104)	10:35am to 12pm
Fri Oct 12, 2018	Lymphocyte Homing-von Andrian (https://canvas.hms.harvard.edu/calendar?event_id=41773&include_contexts=course_1104)	9am to 12pm
Wed Oct 17, 2018	Tutorial Group IV-Brennan, Cherayil, Horwitz, Kwon, Mansour (https://canvas.hms.harvard.edu/calendar?event_id=41774&include_contexts=course_1104)	9am to 10:35am
	Antibody Dependent Protection and Allergies-Pillai (https://canvas.hms.harvard.edu/calendar?event_id=41775&include_contexts=course_1104)	10:35am to 12pm
Fri Oct 19, 2018	Midterm Examination-Pillai (https://canvas.hms.harvard.edu/calendar?event_id=41776&include_contexts=course_1104)	9am to 11am
Wed Oct 24, 2018	Tutorial Group V (https://canvas.hms.harvard.edu/calendar?event_id=42002&include_contexts=course_1104)	9am to 10:35am
	Case Presentation III-Farmer (https://canvas.hms.harvard.edu/calendar?event_id=42003&include_contexts=course_1104)	10:35am to 12pm
Fri Oct 26, 2018	Cell Mediated Immunity I (CD4+ T cells)- Lichtman (https://canvas.hms.harvard.edu/calendar?event_id=42004&include_contexts=course_1104)	9am to 12pm
Wed Oct 31, 2018	Tutorial Group VI (https://canvas.hms.harvard.edu/calendar?event_id=42005&include_contexts=course_1104)	9am to 10:35am
	Cell Mediated Immunity II (CD8+ T cells)-Lichtman (https://canvas.hms.harvard.edu/calendar?event_id=42007&include_contexts=course_1104)	10:35am to 12pm
Fri Nov 2, 2018	Paper Discussion II-Pillai (https://canvas.hms.harvard.edu/calendar?event_id=42008&include_contexts=course_1104)	9am to 10am
	Free Time/TB Symposium-Pillai (https://canvas.hms.harvard.edu/calendar?event_id=42009&include_contexts=course_1104)	10am to 12pm
Wed Nov 7, 2018	Tutorial Group VII (https://canvas.hms.harvard.edu/calendar?event_id=42006&include_contexts=course_1104)	9am to 10:35am
Fri Nov 9, 2018	The Microbiome and Immunology-Cherayil (https://canvas.hms.harvard.edu/calendar?event_id=42010&include_contexts=course_1104)	9am to 10:35am

Date	Details	
	Epigenetic Regulation of Innate Immunity (https://canvas.hms.harvard.edu/calendar?event_id=42011&include_contexts=course_1104)	10:35am to 12pm
Wed Nov 14, 2018	Tumor Immunology-Pillai (https://canvas.hms.harvard.edu/calendar?event_id=42012&include_contexts=course_1104)	9am to 10:35am
	Case Presentation IV-Dougan (https://canvas.hms.harvard.edu/calendar?event_id=42013&include_contexts=course_1104)	10:35am to 12pm
Fri Nov 16, 2018	Approaches to Autoimmunity (https://canvas.hms.harvard.edu/calendar?event_id=42014&include_contexts=course_1104)	9am to 10:35am
	Transplant Immunology (https://canvas.hms.harvard.edu/calendar?event_id=42015&include_contexts=course_1104)	10:35am to 12pm
Wed Nov 28, 2018	Paper Discussion III (https://canvas.hms.harvard.edu/calendar?event_id=42016&include_contexts=course_1104)	9am to 10am
	Cytokine Signaling-Pillai (https://canvas.hms.harvard.edu/calendar?event_id=42017&include_contexts=course_1104)	10:15am to 12pm
Fri Nov 30, 2018	The Immunology of HIV/AIDS-Walker (https://canvas.hms.harvard.edu/calendar?event_id=42018&include_contexts=course_1104)	9am to 10:30am
	Computational Immunology-Chakraborty (https://canvas.hms.harvard.edu/calendar?event_id=42019&include_contexts=course_1104)	10:30am to 12pm
Wed Dec 5, 2018	Immunological Mechanisms of Injury-Mitchell (https://canvas.hms.harvard.edu/calendar?event_id=42020&include_contexts=course_1104)	9am to 10:35am
	Case Presentation V-Gaiha (https://canvas.hms.harvard.edu/calendar?event_id=42021&include_contexts=course_1104)	10:35am to 12pm
Fri Dec 7, 2018	Paper Discussion IV (https://canvas.hms.harvard.edu/calendar?event_id=42022&include_contexts=course_1104)	9am to 10am
Wed Dec 12, 2018	Immunodeficiencies-Pillai (https://canvas.hms.harvard.edu/calendar?event_id=42023&include_contexts=course_1104)	9am to 12pm
Tue Dec 18, 2018	Final Exam (https://canvas.hms.harvard.edu/calendar?event_id=42024&include_contexts=course_1104)	9am to 12pm