



Fall 2021

ADVANCED TOPICS in IMMUNOLOGY

Course Director: J. Magarian Blander

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Module I – Host-Microbiome Interactions

Module Director: Gregory Sonnenberg

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Date: September 15- October 20, 2021 (Wednesday)

Time: 1:00 – 4:00 PM

Location: L [C222], M [C224]*

Remote: <https://weillcornell.zoom.us/j/92851654776>

Password will be provided by email.

Course Description: This course is designed to provide second year IMP graduate students with analytical and critical thinking skills within the context of a current and fast-moving research area in Immunology. Through multiple classes, each addressing a subtopic within the larger selected research topic, students will acquire a deeper knowledge of the biology and learn how to approach a research problem including conceptualization, experimental strategy design, data interpretation, and research proposal development.

Format: The format of the lecture will be a short didactic introduction to the topic by the faculty member followed by an in-depth discussion of 1 (or sometimes 2) paper (s).

- For each paper, a pre-assigned student will prepare the introduction and a discussion slide***.
- All students will have needed to read the paper in depth prior to the session discussion as each will take a different figure to present. The expectation is that each student has read the papers prior to the meeting, researched the background of the study and the gaps in knowledge it has addressed, familiarized themselves with the technical caveats, assumptions made if any, and the systems and methods used. The



student is also expected to have thought about the findings and their significance, and to have formulated an approach for future directions and research areas based on the findings of the study.

- The students are graded on their active participation in the class lecture and presentation portions, and the ability to engage in a critical productive dialogue which the faculty member will help to coordinate and engage.

One of the major goals of the class, beyond the knowledge itself, is to help the students prepare for their ACE. Therefore, the paper discussion will aim to frame a set of specific aims:

- Can the results described in the paper be the scientific premise for a new grant proposal?
- What would the aims be?
- What would be the major criticisms if the aims were directly derived from the results described in the paper?
- What would be alternative scenarios that could explain the results and end-up being a fatal flaw in the application?
- ***The student who is preassigned to generate the introduction and discussion slides will scribe the Specific Aims/subaims/experiments agreed upon by consensus and refinement by the group, and will turn these over to the TAs at the end of the session.

Grading:

Grades will be based:

- (1) Attendance of each class and active participation throughout the lecture and presentation portions of the class (**40%**)
- (2) Presentation (clarity and the quality and depth of discussion) (**60%**).
- (3) There are only 6 classes and thus absences are strongly discouraged. They weigh heavily on your grade and will incur percent deductions. However, we do understand that circumstances might arise that make an absence unavoidable. In that case, the student will need to justify an absence by writing to both the Module and Course director.

SCHEDULE

DATE	FACULTY	LECTURE	Room
September 15, 2021	Gregory Sonnenberg	Microbiota and innate lymphoid cell interactions	L [C222], M [C224]
September 22, 2021	Melody Zeng	Gut microbiome and maternal-neonatal immune cross-talk	L [C222], M [C224]
September 29, 2021	Randy Longman	Microbial regulation of mucosal healing	L [C222], M [C224]
October 6, 2021	Iliyan Iliev	Fungal microbiota and host immunity	L [C222], M [C224]
October 13, 2021	Chun-Jun Guo	Modulation of host physiology by microbiota metabolites	L [C222], M [C224]
October 20, 2021	Gretchen Diehl	Immune regulation by dietary factors and the intestinal microbiota	L [C222], M [C224]

* Rooms: **L [C222], M [C224]** are located in WCMC Campus; 1300 York Ave 2nd floor



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