Immunology 506 -2020

Directors – Jorge Henao-Mejia and Christopher Hunter

Teaching Assistants – Bonnie Douglas and Neha Nataraj

Time 1-3 pm Monday, Wednesday and Fridays. Lectures are approx. 90 minutes – but time at the end is available for student and faculty discussion.

DATE	TOPIC	LECTURER	Topic
Wed Sept 2	INTRO	Michael Cancro*	An Overview of Conceptual Development in Immunology
Fri Sept 4	Complement and myeloid cells - defenders of the universe	Kate Sullivan*	Monocytes and neutrophils, are the phagocytic cells essential for infection control. Complement is a set of soluble proteins that interface with host defense to facilitate phagocytosis and signaling.
Monday Sept 7	LABOR DAY	LABOR DAY	LABOR DAY
Wed Sept 9 ** NIH	Hematopoeisis - Myeloid	Warren Pear*	HSC and myeloid focused
Fri Sept 11	Pattern recognition and bacterial innate immunity.	Maayan Levy	How to detect a pathogen and elicit a response that will eliminate it. How to distinguish between non-infectious self and infectious non-self using pathogen recognition receptors, and this is the key to long-term genomic integrity and species survival.
Mon Sept 14	Natural Killer Cells	Taku Kambayashi*	An overview of the history, function, development, and tolerance induction of NK cells.
Wed Sept 16	Innate Lymphoid Cells	De'broski Herbert*	Ontogeny and roles of innate lymphoid cell populations. Emphasis on cytokine signaling pathways responsible for survival and effector responses.

Fri Sept 18 Rosh Hashanah	Macrophages in Health and Disease	Malay Haldar*	An overview of Mø function, and development and role in tissue homeostasis and disease.
Mon Sept 21	Cell intrinsic mechanisms	Sara Cherry	Viral recognition and cell intrinsic anti-viral mechanisms.
Sept 23	Orchestration of Antiviral Inflammation	Kellie Jurado*	Virus-induced cytokine production focused on type I and type III interferons. Will cover innate and adaptive immune cell recruitment and response as well the balance between immunoprotection and immunopathology.
Fri Sept 25	Student Recap		BIOM 600 EXAM
Mon Sept 28 Yom Kippur BlueJeans?	Hematopoeisis – lymphoid?	Ivan Maillard*	Lymphoid priming and specification
Wed Sept 30	Antigen Receptor Gene Assembly	Craig Bassing*	The mechanisms that underlie the assembly of diverse TCR and Ig genes by V(D)J recombination.
Fri Oct 2	Immunoglobulin Gene Diversification	Craig Bassing*	Understanding the molecular mechanisms that promote class switch recombination and somatic hypermutation.
Mon Oct 5	Distal Signals	Martha Jordan*	TCR and BCR signaling basics, costimulationa and the immune synapse
Wed Oct 7	Costimulation and proximal TCR signals	Andrew Wells*	How TCR signals are integrated at the IL-2 promoter/enhancer.
Fri Oct 9	Retreat	Retreat	Retreat
Mon Oct 12	CAR-T cells	Avery Posey*	CAR structure, co-stimulation, antigen density, CAR-T cell exhaustion, types of targets and use of CAR-T cells for drug delivery.
Wed Oct 14	Student Recap		Mid-term Exams
Fri Oct 16	Early B cell development	David Allman*	Transcription factors that affect early B cell commitment and B cell identity

Mon Oct 19	B cell repertoire selection	David Allman	Negative and positive selection in shaping the naïve B cell repertoire
Wed Oct 21	Regulation of antibody responses	DavidAllman	T-dependent versus T-independent antibody responses
Fri Oct 23	MHC Restriction	Terri Laufer*	Discovery and biology of MHC restriction
Mon Oct 26 BlueJeans?	T cell Development	Ivan Maillard*	Thymus, early T cell development, Notch signaling
Wed Oct 28	Dendritic Cell Biology	Edward Behrens*	DC ontogeny, function, and role in health and disease.
Fri Oct 30	Antigen Presentation and costimulation?	Ike Eisenlohr	The cell biology of canonical and non-canonical pathways of antigen presentation in the context of infection and inflamation.
Mon Nov 2	T cell Tolerance	Paula Oliver*	Central and peripheral mechanisms that allow T cells to determine self and non-self.
Wed Nov 4	Lymphocyte Homeostasis	Michael Cancro*	Life and death in the T and B cell pool
Fri Nov 6	T reg cells	Martha Jordan*	Treg cell development and function
Mon Nov 9	TH subsets	Chris Hunter	Why do we have so many T cell subsets and what drives this heterogeneity?
Wed Nov 11	Class I - CD8	John Wherry	CD8+ T cell memory
Fri Nov 13	T cell regulation of germinal center responses.	Michela Locci	The discovery of T cell help to B cells and the dynamics of the germinal center process and how T follicular regulatory cells suppress Ab responses.
Mon Nov 16	Limiting CD8+ T cell responses	Wherry	T cell exhaustion and immunotherapy of cancer.
Wed Nov 16	Vaccines	Drew Weissman*	Vaccine background and novel platforms
Fri Nov 20	Inborn Errors of Immunity.	Sarah Henrickson*	Underlying immune mechanisms in primary immune deficiency and immune dysregulation.

Mon Nov 23	Student Recap		
Wed Nov 25			THANKSGIVING
Fri Nov 27			THANKSGIVING
Mon Nov 30	Lymphocyte Trafficking	Michael May* *	Development, organization and function of secondary and tertiary lymphoid organs
Wed Dec 2	Lymphoid Organization	Jorge Alvarez*	The migration and movement of immune cells across the vasculature and within tissues.
Fri Dec 4	Allergy	David Hill	The immunologic origins and clinical relevance of allergic inflammation
Mon Dec 7	Metabolism	Will Bailis	Metabolic regulation of the immune system and immune cell function
Wed Dec 9	Mucosal Immunology	Chengching Jin*	Development and function of the immune system at mucosal sites such as gut, lung and skin
Fri Dec11	Immunity and host Physiology	Jorge Henao-Mejia	Principles of the bidirectional interactions between the immune system and different organs and systems in health and disease
Mon Dec 14	Capstone		Final Exams

Likely Arrival dates of Students.

Montserrat	Arreguin	PhD	August 3rd
Rachel	Clement	PhD	August 6th
Julia	Eberhard	PhD	August 1st
Emma	Goodman	PhD	first week of Sept

Bruktawit	Goshu	PhD	
Zachary	Lanzar	PhD	September 1st
Stefan	Lundh	PhD	HERE
Jeffrey	Maslanka	PhD	HERE
William	Molina-Arocho	PhD	late-September
Isaiah	Rozich	PhD	HERE
Rachel	Serafin	PhD	
Van	Truong	PhD	HERE
Casey	Lee	MD/PhD	HERE