Goldrath-BIMM 194, Spring Quarter 2015.

Title: Immunotherapy
Instructor: Ananda Goldrath
Location: York 3010
Date/Time: Fridays 1pm-2:30pm

Course Summary: Immunology is generally thought of as the mechanisms that organisms use to defend their bodies from invasion by other organisms. However, the immune system is also a central player in many diseases that do not involve infection including: autoimmunity, allergy, cancers. Furthermore, inflammation contributes to the development of cardiovascular and metabolic diseases. In the present course we will learn about strategies to influence the immune system in a variety of human diseases to improve health outcome—collectively termed Immunotherapy. Immunotherapy can be designed to induce, enhance, or suppress an immune response. The goal of the course is not only to provide a big picture of immune responses involved in host protection and in disease, but also to learn how to interpret and present primary literature in this fast-moving field.

Lectures: I will present the first lecture reviewing general principles of immune responses. The rest of the classes will consist in presentation and discussion of one paper related to viral immunity. Selected papers will be available 1-2 weeks in advance and need to be read before class by all students. A group of ~4 students will be assigned for each paper. The presenters will identify the major question/s addressed by the paper, describe each figure and the correspondent conclusion and come up with a simple take-home message for the paper.

I suggest the following template for the presentation

1) General question
2) Specific question 1, Figure 1, Conclusion from Figure 1
3) Specific question 2, Figure 2, Conclusion from Figure 2
4) Same as 2 and 3 with subsequent figures
5) Review of all conclusions from each figures
6) TAKE-HOME MESSAGE

Quizzes: There will be nine quizzes, one every week (except the first week) at the end of each class. They will consist of T/F questions regarding the material. Questions will be related to conclusions or concepts emphasized during the presentation. Each quiz will count for 5% of your grade.

Participation: Questions, comments, suggestions are encouraged at any time during the lecture.

Grading: grading will reflect presentation of the assigned paper (35%), quizzes (45%), and participation (20%). The grading will be normalized to the highest

score. 60-70% of that score will be a D, 70-80% will be a C, 80-90% will be a B and 90-100% of that an A.

EMAIL COMMUNICATION: bimm194asp15@biology.ucsd.edu is the appropriate email for all correspondence. Please remember to include your first and last name in the body of the email and write IMMUNOTHERAPY BISP194 in email subject. Questions that can be asked before or after lecture should not be asked in this forum and will not be answered by e-mail.

OFFICE HOURS: My office hours will follow class—2:30-3:30 NSB 5107.

Spring 2015 Class Schedule:

Class 1. April 3rd, Introduction to the immune system.

Class 2. April 10th, Continued introduction and examples of immunotherapy strategies.

Class 3 April 17th, Dr. Justin Milner. Vaccination.

Class 4 April 24th, Dr. Sujan Shrestra. Dengue Virus, challenges to vaccination.

Class 5 May 1st, Dr. Kyla Omilusik. Ebola and serum therapy.

Class 6 May 8th, Dr. Justin Milner. Immunotherapy for chronic viral infections.

Class 7 May 15th, Immunotherapies for autoimmunity.

Class 8 May 22nd, Cancer Therapy, cytokines and T cells.

Class 9 May 29th, Cancer Therapy, Blockade of inhibitory receptors.

Class 10 June 5th, Bone marrow transplantation.

No final.