Syllabus IMUN601 - Molecular Immunology 2016

Purpose

The purpose of this course is to provide immunological examples for the material that you are learning in BIOM 600.

Format

The course format will be as follows:

We will have a weekly meeting (Tuesday 9:00-10:30 SCL104) at which a single immunology oriented article relevant to BIOM 600 will be considered. THIS IS NOT NECESSARILY MEANT TO BE THE MOST CUTTING-EDGE ARTICLE IN THE FIELD, BUT ONE WHICH DEMONSTRATES KEY CELL BIOLOGICAL CONCEPTS. All articles are available as PDFs for download from the blackboard site.

Each week, One student will give a 10-15 minute overview of the concepts being studied in the article with special attention to how it relates to what you are learning in BIOM 600.

Powerpoint presentations are not allowed. Chalk talk format is encouraged although a handout can be provided and has been viewed as helpful in the past. The schedule for which students are responsible for which articles will be determined at the first class meeting.

After the introduction we will go around the room randomly and each participant will present one figure from the paper. The discussion should cover:

1) What the authors are trying to say with the figure.
2) What technique they are using to make their point.
3) What the data show.
4) How the authors interpret these data.
5) What statistic analysis was used to interpret the data.
6) What alternative explanations exist if any.
7) How the conclusion drawn from the figure relates to material under consideration in BIOM600.

The student in charge of the overview will also be in charge of assisting their colleagues who might have difficulty with the figure they are presenting.

On blackboard you will find copies of the course schedule as well as pdf files for the individual papers we will be considering. The course schedule contains contact information for all course faculty. Please feel free to contact faculty to discuss your 10-15 minute overview before your scheduled date. This is highly encouraged!

Final Project

At the end of the term there will be a short “final project”. This is not meant to be burdensome, but is presented as an opportunity for you do learn something interesting about a topic you might find of interest. It is also an opportunity for you do demonstrate your creativity and distinguish yourself. To complete this project you will find a published immunology paper that has something to do with cell biology and draws upon what you have learned in BIOM600. Based upon this published work you will write a 2-page (maximum) paper along with a drawn descriptive model. The paper should include the following parts: 1) synopsis of the main conclusion of the paper, 2) summary of methods used and key experimental discoveries; 3) how it draws upon cell biology and
what basic cell biological principles it strengthens, or advances; 4) what it teaches you (as an immunologist) about immunology from a non-cell biological perspective; and 5) why you chose this paper in particular and what future direction in immunology it might make accessible. On a separate page, you should draw (can be by hand or on computer) a schematic model of the findings in the paper you chose. This could be a cell diagramming how the process under study proceeds, or a pathway chart, or something germane to however your mind processes this type of information. “Final projects” can be submitted anytime after November 1st but must be received BEFORE December 13th. Submit them via email to Claudio Giraudo (Giraudoc@mail.med.upenn.edu). Also please direct any questions about the project or requirements directly to Claudio Giraudo, either through blackboard or via email.

**Assessment and Course grades**

Grades for this course will be determined by
1) The quality of your 10-15 minute overview
2) The quality of your presentations of figures that you were selected to explain
3) Your overall level of participation
4) The acceptability and quality of your final project
5) Your attendance
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Faculty and Themes:
Theme: MEMBRANES AND SECRETION
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Theme: ION CHANNELS AND Ca$^{2+}$ SIGNALLING
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Theme: SIGNALLING

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200E VET, Old Vet Building
Phone: 215-573-0940
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<table>
<thead>
<tr>
<th>DATE</th>
<th>Faculty</th>
<th>Topic</th>
<th>Paper</th>
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<tr>
<td>9/13</td>
<td>Giraudo</td>
<td>Immunological Membranes</td>
<td>Gagnon E. (JEM) 2012</td>
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<td>May</td>
<td>Immune signal transduction</td>
<td>Sen R. (Cell)</td>
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<td>Paul S (Science Signaling-2014)</td>
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<td>Edidin M. (Immunity)</td>
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<td>Zhang K. (J. Clinical Inves.)</td>
<td>Sophia Reeder</td>
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<td>12/16</td>
<td>Paper Due</td>
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