Course Directors and Contact Info:

Matthew Weitzman, Colket 4050, 267-425-2068, weitzmann@email.chop.edu
Sunny Shin, Johnson Pavilion 201B, 215-746-8410, sunshin@pennmedicine.upenn.edu

Section Directors

Virology II: Matthew Weitzman/Jianxin You
Parasitology I & II: Sparky Lok/Boris Striepen

Description

The MVP Core class provides CAMB-MVP students with key fundamental knowledge of Bacteriology, Virology, and Parasitology. The course runs through the Fall and Spring for first year CAMB-MVP students. The course starts with 3 overview lectures and is then organized into three sections that cover principles of Bacteriology, Virology, and Parasitology.

Prerequisites

None

Enrollment criteria

Required for all first year CAMB-MVP students. Non-CAMB-MVP students by permission of course directors.

Schedule

MWF, 2:30-3:30

Location

Virtual (BlueJeans)


Want to dial in from a phone?

Dial one of the following numbers:

- +1.408.419.1715 (United States(San Jose))
- +1.408.915.6290 (United States(San Jose))

SEE ALL NUMBERS

Enter the meeting ID and passcode followed by #
Syllabus

Format

- Lecture
- Discussion - Themed lecture sets with intermittent journal article discussion groups

Student assignments

Midterm/final exam for each subsection
Journal article presentation within each subsection

Grading Criteria:

50% Exam-based (in class or take home, varies by section leaders)
40% presentation-based
10% participation-based (participation in discussions, asking questions during lecture, etc.)

Course Goals

Students who complete this course successfully will have gained:
- A broad introduction to host-pathogen interactions
- A survey of bacteriology, virology and parasitology with emphasis on common and distinct themes
- Ability to analyze relevant primary articles in-depth

Guidelines/Expectations for Student Paper Presentations (modified for virtual presentation)

Students not assigned to present:

1. Read the paper well in advance of the presentation day.
2. Email to the assigned faculty member a specific question about the science presented in the paper that can become part of the discussion.
3. Come prepared to participate actively in the discussion with observations and answers to questions about approaches or interpretations by the authors.

Students (2-3 selected for each paper) assigned to present:

1. Meet the faculty mentor for the paper well in advance of the presentation to go over expectations and discuss the background for the paper. It is your responsibility to establish contact with the faculty member.
2. Format will be a journal club style presentation via PowerPoint and should contain the following elements:
   A. A brief presentation of the background of the research including rationale and key previous findings upon which it is based,
   B. A presentation of key findings in the most important figures (ie. not necessarily all of them!),
   C. A critical review of the major findings and interpretations and
   D. A critique of the significance of the paper overall.
3. Meet with the faculty mentor for the paper soon after your presentation for feedback.

Faculty Mentor:

1. The assigned faculty member will meet with presenters remotely prior to the presentations.
2. Faculty members will collect emailed questions from non-presenting students and moderate the discussion on the day of presentation to ensure involvement of students in answering.
3. Faculty mentors are encouraged to give brief comments at the end of the presentation session about where the paper fits into the general thrust of research in their field.

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Priscille Mieles
Email: DOSSEKOUP@EMAIL.CHOP.EDU
# Virology Section II

**Course Directors:** Jianxin You and Matthew Weitzman

**CAMB 706 – Virology Section II**

<table>
<thead>
<tr>
<th>DATE</th>
<th>DAY</th>
<th>TITLE</th>
<th>LECTURER</th>
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<tbody>
<tr>
<td>1/13/21</td>
<td>W</td>
<td>Antiviral therapeutics</td>
<td>Dr. Bates</td>
<td><a href="mailto:pbates@pennmedicine.upenn.edu">pbates@pennmedicine.upenn.edu</a></td>
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<tr>
<td>1/15/21</td>
<td>F</td>
<td>Innate Recognition</td>
<td>Dr. Cherry</td>
<td><a href="mailto:cherrys@pennmedicine.upenn.edu">cherrys@pennmedicine.upenn.edu</a></td>
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<tr>
<td>1/20/21</td>
<td>W</td>
<td>Immune Evasion</td>
<td>Dr. Cherry</td>
<td><a href="mailto:cherrys@pennmedicine.upenn.edu">cherrys@pennmedicine.upenn.edu</a></td>
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<tr>
<td>1/22/21</td>
<td>F</td>
<td>Coronaviruses</td>
<td>Dr. Weiss</td>
<td><a href="mailto:weisssr@pennmedicine.upenn.edu">weisssr@pennmedicine.upenn.edu</a></td>
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<td>1/27/21</td>
<td>W</td>
<td>Student Paper Presentation</td>
<td>Dr. White</td>
<td>Zhang et al., Cell 2018;175, 1465–1476</td>
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<td>1/29/21</td>
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<td>Viral Transformation and Cancer I</td>
<td>Dr. You</td>
<td><a href="mailto:jianyou@pennmedicine.upenn.edu">jianyou@pennmedicine.upenn.edu</a></td>
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<tr>
<td>2/1/21</td>
<td>M</td>
<td>Viral Transformation and Cancer II</td>
<td>Dr. White</td>
<td><a href="mailto:eawhite@pennmedicine.upenn.edu">eawhite@pennmedicine.upenn.edu</a></td>
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<td>2/3/21</td>
<td>W</td>
<td>Student Paper Presentation</td>
<td>Dr. Tempera</td>
<td><a href="mailto:itempera@wistar.org">itempera@wistar.org</a></td>
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<td>Okabe et al., Nat Genet. 2020 Sep;52(9):919-930.</td>
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<td>2/5/21</td>
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<td>Viral DNA replication &amp; repair</td>
<td>Dr. Weitzman</td>
<td><a href="mailto:weitzmanm@email.chop.edu">weitzmanm@email.chop.edu</a></td>
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<td>2/8/21</td>
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<td>Epigenetics and viral latency</td>
<td>Dr. Lieberman</td>
<td><a href="mailto:lieberman@wistar.org">lieberman@wistar.org</a></td>
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<td>Dr. Lieberman</td>
<td>Roy et al., eLife 2019;8:e49500</td>
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<td>Virology Final Due</td>
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2/17/21: Virology Final Due
Syllabus

1/13/21 Antiviral Therapeutics (Bates)
- Overview of viral infections
- Antiviral drug development
- Therapeutic targets
- Challenges for drug development

1/15/21 Innate recognition (Cherry)
- Introduction:
- Pathways and mechanisms

1/18/21 Martin Luther King Day

1/20/21 Viral Immune Evasion (Cherry)
- Introduction:
- Pathways and mechanisms
- Viral examples of evasion

1/22/21 Student Paper Presentation and Discussion (You)

1/25/21 Coronavirus (Weiss)
- Introduction
- Virus structure and replication
- Host responses
- SARS-CoV-2 and COVID-19

1/27/21 Student Paper Presentation and Discussion (white)

1/29/21 Viral Transformation and Cancer I (You)
- Introduction to human cancer viruses
- Key features of tumor cells
- Overview of viral oncogenic mechanisms
- Tumor virus interactions with host immune system
- New technologies for studying cancer viruses

2/1/21 Viral Transformation and Cancer II (White)
- Features of oncogenic human viruses
- Human papillomaviruses
- Human transforming herpesviruses
- Systems approaches to virus-host interactions

2/3/21 Student Paper Presentation and Discussion (Tempera)

2/5/21 Viral DNA Replication and Repair (Weitzman)
- Viral DNA genomes and Virus DNA replication
- Small linear ssDNA – Paroviruses
- Small circular dsDNA – Polyomaviruses
- Linear dsDNA – Adenoviruses
Syllabus

- Large circular dsDNA – Herpesviruses
- Virus Replication Compartments
- DNA repair and viruses

2/8/21  Epigenetics and Viral Latency (Lieberman)
- Introduction to viral latency
- Introduction to arboviruses

2/10/21  Student Paper Presentation and Discussion (Lieberman)

2/17/21  Virology Final Due
Syllabus

CAMB 706 Parasitology Section I & II

Course Directors: Sparky Lok & Boris Striepen

February 12