

The Rockefeller University Virology Course: Spring 2023
Lectures: CRC 206, Tuesdays 10 AM-12 PM (except where noted)
Discussion & Lunch: Rice Lab Conference Room HOS 501, 12-2 PM (speaker & graduate students only)
Course Organizers: Paul Bieniasz, Theodora Hatzioannou & Charlie Rice

To: All Rockefeller Graduate Students and Tri-Institutional MD-PhD Students

VIROLOGY COURSE ANNOUNCEMENT (SPRING QUARTER 2023)

Classes will be held in CRC 206, Tuesdays from 10:00AM to 12:00PM with Discussion in the Rice Lab Conference Room (HOS 501A) from 12:00PM to 2:00PM. Organizational meeting Tuesday February 14 will be held in CRC 206 at 11:00AM.

Registrar: Kristen Cullen cullenk@rockefeller.edu (Dean's Office, Rockefeller University)

Faculty Contacts: Charles M. Rice, Ph.D. ricec@rockefeller.edu, Paul Bieniasz, Ph.D. pbieniasz@rockefeller.edu, Theodora Hatzioannou, Ph.D. thatziio@rockefeller.edu

Credits: 2.0

Format: Each class will consist of a two hour lecture followed by a two hour journal club discussion of a research paper chosen by the speaker and led by the students. There will be a 15 minute break after the lecture for registered students.

Learning Outcomes: Students are expected to gain a fundamental understanding of viruses and their place in the ecosystem.

Required Reading Prior to Course:

Required Text: *Principles of Virology: Molecular Biology, Pathogenesis, and Control*, 5th edition (eds. Flint et al.). It is recommended that students taking this course purchase a personal copy of the *Principles of Virology* text. On Reserve in the RU Library: Fields Virology 7th edition (eds. Knipe, Howley et al.). Two copies of both books will be available on the reserve shelf of the RU Library, (i.e. none of these copies can be checked out).

Class Preparation: There will be assigned papers, typically one review article and one original research paper, to accompany the lecture and discussion session, respectively. Students should come to class prepared to discuss these papers in detail.

Journal Club Format (Students registered for credit only): Two students will be assigned to lead a discussion on a paper chosen by the lecturer. The students will go through the questions, goals and experimental design of the paper and figures and data for each experiment. If there are a lot of supplementary data, they need not delve into every single supplementary figure but select the important ones. In addition, identifying strengths and weaknesses (if any) of the paper is recommended. The students are encouraged to work together and coordinate the presentation.

Evaluation: Credit will be based on class attendance and participation, and on a written grant proposal to be submitted at the end of the course.

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Organizational meeting	February 14 11:00 AM Start Time	Students & Course Organizers Faculty: Charlie, Paul and Theodora
History & Principles of Virology	February 28	Vincent Racaniello, Columbia University vrr1@columbia.edu
Virus Structure & Design	March 7	Stephen Harrison, Harvard University harrison@crystal.harvard.edu
Virus Evolution	March 14	Edward Holmes, University of Sydney edward.holmes@sydney.edu.au
Pathogenic human coronaviruses	March 21	Timothy Sheahan, UNC at Chapel Hill sheahan@email.unc.edu
<i>Hepadnaviridae</i> & LINE-1 elements	March 28	Bill Schneider & Charlie Rice, Rockefeller University, wschneider@rockefeller.edu , ricec@rockefeller.edu
Bacteriophages & CRISPR	April 4	Luciano Marraffini, Rockefeller University marraffini@rockefeller.edu
<i>Picornaviridae</i> , virus-microbiome interactions, circadian effects	April 11	Julie Pfeiffer, UT Southwestern julie.pfeiffer@utsouthwestern.edu
Innate immune and physical barriers to viral infection	April 18	Carolyn Coyne, Duke University School of Medicine carolyn.coyne@duke.edu
<i>Mononegavirales</i>	April 25	Sean Whelan, Washington University School of Medicine spjwhelan@wustl.edu
Host genetics and virus susceptibility (Due: grant rationale and specific aims, submit to gsantiago@rockefeller.edu)	May 2	Jean Laurent Casanova, Rockefeller University casanova@rockefeller.edu
Presentation and discussion of grant ideas and aims	May 9	Students & Course Organizers Faculty: Charlie, Paul and Theodora
<i>Retroviridae</i>	May 16	Paul Bieniasz & Theodora Hatzioannou, Rockefeller University pbieniasz@rockefeller.edu thatzio@rockefeller.edu
<i>Poxviridae</i> Grants due	May 23	Liang Deng, MSKCC DengL@mskcc.org
Vaccines against viral infections and preventing the next pandemic	May 30	Barney Graham, Morehouse School of Medicine bgraham@msm.edu
Student reviewer critiques due	May 31	Submit pdf via e-mail to gsantiago@rockefeller.edu
Study Section	June 6 9:00 AM Early Start Time Breakfast and lunch included	Students and Course Organizers Faculty: Charlie, Paul and Theodora