IAP 2021

For Credit

7.S391 – Visualizing biological molecules and fundamental biological processes

January 11 – 27, daily from 1:30-4 p.m.
Virtual
Level: U | 3 units (0-2-1)
Instructors: Dr. Mandana Sassanfar
Prerequisites: None (Biology GIR or High school AP biology recommended)
Note: This subject does not replace 7.102 and is not a substitute for 7.002 or 7.003.

Students will be introduced to fundamental molecular biology techniques and tools that are used to study DNA and Proteins and visualize fundamental biological processes such as cell growth and division, cell migration, neural circuits, quorum sensing, and apoptosis. Techniques will include PCR, genetic engineering, GFP labeling, fluorescence microscopy and optogenetics. This course will focus on problem solving skills and be highly interactive.
The class is limited to 25 undergraduates. No listeners. Preference will be given to freshman and sophomores. If interested please download and complete the registration form and email Dr. Mandana Sassanfar by December 24.

Non-Credit

Skills in Science

Delivering an Engaging Scientific Presentation

Wednesday, January 6, Virtual
Britt Glaunsinger, PhD
Professor, Departments of Molecular and Cellular Biology and Plant and Microbial Biology, University of California, Berkeley; Investigator, Howard Hughes Medical Institute

Communicating your work effectively is an essential skill. Professor Britt Glaunsinger, who developed a class on this very topic, will share her tips and tricks for giving a clear and engaging scientific presentation for an academic audience—whether on zoom or in-person.

Rethinking Scientific Training

Thursday, January 14, Virtual
Melanie Sinche, NCC
Interim Assistant Dean for Academic Affairs; Director, Career Development Center; Executive Director, Women's Leadership Center, University of Saint Joseph, West Hartford, Conneticut
Joshua Hall, PhD
Director of Admissions, Biological and Biomedical Sciences Program (BBSP); Director of UNC PREP; Office of Graduate Education, UNC Chapel Hill, School of Medicine

An advanced degree in biomedical science is a prized asset to employers, both inside and outside academia. Although institutions are waking up to the need to introduce trainees to the career landscape early in their training, much of the onus for career development currently rests on your own shoulders. Melanie Sinche, author of Next Gen PhD, and Joshua Hall, host of the HelloPhD podcast will share their perspectives going through, and later shaping, graduate training within the biomedical community. This should be an empowering discussion about rethinking scientific training in the future—and present.

Creating Effective Figures and Compelling Data Visualization

Wednesday, January 13 & Thursday, January 21, Virtual
Jenna Luecke
Claus Wilke, PhD

Want your figures to look better for presentations and publications? Unsure on how to do it? Join us for a two-part series to get advice on creating compelling figures from professionals.
In Part 1, Jenna Luecke, professional designer and illustrator, will cover design principles for creating powerful visuals. jennaluecke.com/sciencecommunication

In Part 2, Dr. Claus Wilke, Department Chair and Professor of Integrative Biology at UT Austin and author of "Fundamentals of Data Visualization" will teach us how to make "visualizations that accurately reflect the data, tell a story, and look professional." clauswilke.com/dataviz/

Communicating Science to Non-scientists

Thursday, January 28
Carl Zimmer
Science Writer, New York Times columnist, author

This workshop led by award-winning New York Times columnist Carl Zimmer will introduce participants to writing about science for a broad, non-scientist audience.

Careers in Biology

Exploring a Career Path in Biotech and Biopharma

Tuesday, January 5, Virtual
Florencia Rago
Principal Scientist, Novartis Institutes for BioMedical Research (NIBR)
Amy Rabideau
Associate Director, Moderna
Elizabeth Paik
Head of Genome Engineering, Associate Director, Vor Biopharma

Are you interested in pursuing a career in the biotechnology or pharmaceutical industries after graduation? What are the key differences between working in industry vs academia? What are the perks of each of these sectors and how do you navigate the job search? Learn about the wide variety of opportunities that exist: from basic science to translational research as well as clinical trial management and business operations. Our talented speakers will share their diverse set of experiences and provide valuable career advice in these areas.

Science Policy

Thursday, January 14, Virtual
Rocco Casagrande, PhD
Managing Director, Gryphon Scientific
Erica Kimmerling, PhD
Senior Advisor for Science Engagement Policy and Partnerships, Association of Science Centers
Daniel Pomeroy, PhD
Executive Director of the Scientific Citizenship Initiative, Harvard Medical School

Interested in applying your Biology PhD to work in the public sector? Come learn about how to transition from Biology graduate school to a career in science policy.

Art & Science

Wednesday, January 18, Virtual
Christine Liu
PhD candidate, University of California, Berkeley
Sarah McGuiness
PhD candidate, University of Illinois, Chicago

As academics, we work to better contextualize our relationship with the natural world. Other disciplines, especially art, have their own distinct ways of analyzing our relationship to our universe in furtherance of this goal. Artistic representations of scientific ideas are interesting in their own right, and can serve to improve your ability to communicate your scientific ideas. How can art help your science? Could your scientific work one day become part of a work of art? To what extent can you merge your scientific and artistic interests in a career?

Venture Capital in Biotech: what it is and how to get involved

Tuesday, January 26
Abbie Celniker
Partner, Third Rock Ventures
Kate Moreau
Associate Director, TechAtlas, RA Capital Management, LLC
Geraldine Paulus
Senior Associate, MPM Capital

Investments and company creation within the life sciences hold exciting opportunities for those interested in the development of disruptive, innovative, and transformative technologies coupled to their application to human health. Join a panel of leaders within the venture capital world to discuss 1) what constitutes a successful career as a venture capitalist 2) their journey to where they are now and 3) suggestions for anyone interested in pursuing a similar career trajectory.

Immunity from Principles to Practice

Clonal Dynamics of the Antibody Response

Tuesday, January 5, 4–5 pm
Gabriel Victora, PhD
Laurie and Peter Grauer Assistant Professor, Rockefeller University

Neutralizing Antibodies Against Pandemic Viruses

Tuesday, January 12, 4–5 pm
Pamela Bjorkman, PhD
David Baltimore Professor of Biology and Biological Engineering,
California Institute of Technology

Interrogating the Immune System through the Lens of Structure-based Ligand Engineering

Tuesday, January 19, 4–5 pm
Chris Garcia, PhD
Younger Family Chair
Investigator, Howard Hughes Medical Institute
Stanford University School of Medicine

Microbiome and Virome Control of Host Immunity

Tuesday, January 26, 4–5pm
Yasmine Belkaid, PhD
Chief, Metaorganism Immunity Section
Laboratory of Immune System Biology
National Institute of Allergy and Infectious Diseases