

Computation and Informatics in Biology and Medicine

(BMI 915; also cross-listed in CS, Bioch, CBE, BME, Gen)

Spring 2020

Tuesdays, 4:00 p.m.

Genetics/Biotechnology Center Room 1360

(or Gen/Biotechnology Center Auditorium, if noted below)

425 Henry Mall

- Jan. 21 Presentation by John Yin PhD, Vilas Distinguished Achievement Professor (Department of Chemical and Biological Engineering; Wisconsin Institute for Discovery), University of Wisconsin-Madison, *Virome Dynamics: Patterns of Virus Growth Over the Domains of Life*, Biotech Center Auditorium
- Jan. 28 Presentation by Frank Liao, PhD, Director of Data Science and Advanced Analytics, Enterprise Analytics, UW Health, *The Chaos of Data*, Biotech Center Auditorium
- Feb. 4 Presentation by Alyssa Adams, PhD, CIBM postdoctoral fellow, Department of Bacteriology, UW Madison, *How Living Systems Are Different than Non-Living Systems*, Room 1360 Biotech Center
- Feb. 11 Presentation by Daniel Conn, PhD, CIBM postdoctoral fellow, Department of Biostatistics and Medical Informatics, UW-Madison, *Title TBA*, Room 1360 Biotech Center
- Feb. 18 Presentation by Brody Holohan, PhD, CIBM postdoctoral fellow, Marshfield Clinic Research Institute, *Title TBA*, Room 1360 Biotech Center
- Feb. 25 Presentation by Collin Engstrom, PhD, CIBM postdoctoral fellow, Department of Emergency Medicine, UW School of Medicine and Public Health, *Title TBA*, Room 1360 Biotech Center
- Mar. 3 Presentation by Samantha Anderson, PhD, Research Associate, Department of Biochemistry, UW-Madison, *Title TBA*, Room 1360 Biotech Center
- Mar. 10 Presentation by Justin Boutilier, PhD, Assistant Professor, Department of Industrial and Systems Engineering, UW-Madison, *Title TBA*, Biotech Center Auditorium
- Mar. 17 No seminar – Spring Break
- Mar. 24 Presentation by Niklas Gahm, CIBM predoctoral fellow, Department of Biomedical Engineering, UW-Madison, *Title TBA (date to be confirmed)*, Room 1360 Biotech Center
- Mar. 31 Presentation by Nicole Werner, PhD, Assistant Professor, Dept. of Industrial and Systems Engineering, UW-Madison, *Title TBA*, Biotech Center Auditorium
- Apr. 7 Presentation by Brian Patterson, MD, MPH, Physician Director for Predictive Analytics, UW Health, Assistant Professor, BerbeeWalsh Dept. of Emergency Medicine, UWSMPH, *Title TBA*, Biotech Center Auditorium
- Apr. 14 Presentation by TBA
- Apr. 21 Presentation by Irene Ong, PhD, Assistant Professor, Department of Obstetrics and Gynecology; Department of Biostatistics and Medical Informatics, UW-Madison, *Title TBA*, Biotech Center Auditorium

Apr. 28 Presentation by Brian Yandell, PhD, Professor, Departments of Statistics; Horticulture; Interim Director, American Family Insurance Data Science Institute, UW-Madison, *Title TBA*, Biotech Center Auditorium

Grading:

Students who don't present: Those students who don't give a presentation will be assigned an S/U letter grade based on participation and attendance. Each student will be required to evaluate the seminar speakers for sufficiency of background, presentation of the problem, understandability, explanation of methodology, suitability of the scope of the presentation for the audience, and to comment on the presentation and on insights learned. Grading will be done by the instructors. *In the event that you need a letter grade*, we have allowed students to write an original 10-page research paper (term paper) on an aspect of bioinformatics that interests you and that is appropriate for the Computation and Informatics in Biology and Medicine seminar course. Please check with Louise Pape on getting approval for the topic you choose: send a more detailed description of the topic that you choose to write on and a list of (some of) the papers that you will be using to review the topic. Include the following information for the papers that you will be using: Authors, title, abstract, journal, volume, pages, year. The paper is due by the start of the week of finals, and the topic proposal at least several weeks before.

Students who present: Students will present a seminar on their own research or on a relevant article from the scientific literature. The articles chosen for presentations must be approved in advance by the instructors. The students that give a presentation will be assigned a letter grade A-F based on their presentation, in addition to attendance and participation. Their presentation will be evaluated jointly by the instructors, and the grade for the presentation will be based on the quality and clarity of their presentation, taking into account their oral delivery as well as use of visual aids, their ability to explain the research problem, results and its impact to a multi-disciplinary audience and on their ability to answer questions.

Course Learning Outcomes:

The Computation and Informatics in Biology and Medicine seminar course is designed to bring together trainees, trainers, and other interested faculty and students for cross-disciplinary exposure to current research in computer science, biostatistics, engineering, biological sciences and biomedical research problems related to translational bioinformatics, computational biology, biostatistics and health and clinical informatics.

Number of credits: 1

How the Course Meets the Credit Hour Policy Standards:

This course includes 15 hours of in-class seminars and two hours per week of out-of-class student work. This work includes studying publications and other reading materials associated with the weekly speakers as well as extensive preparation time and feedback session time for presentations given by CIBM trainees.

Instructors:

Mark Craven (Departments of Biostatistics and Medical Informatics; Computer Sciences)
craven@biostat.wisc.edu

Louise Pape (Biotechnology Center);
lpape@wisc.edu

The course schedule is also listed at www.cibm.wisc.edu/seminars.html