

BS6213

Reflective scientist

Assessment arrangements for the part led by
Professor Wong Limsoon



NUS
National University
of Singapore

National University of Singapore

Course objective

Sharing with students how scientists do their thinking

The specific research / papers that an instructor uses for discussion serves mainly as a scaffold for that sharing to take place

A research paper usually just describes the problem being solved, the solution, and the results; it hardly ever explains how the authors did their thinking to come up with it. We want to fill this gap

Course plan

Session #1, 15 Jan 2024 and Session #2, 22 Jan 2024

Protein function prediction and some lessons for classifier performance evaluation

Session #3, 29 Jan 2024 and Session #4, 5 Feb 2024

Gene expression analysis and some lessons for statistical hypothesis testing

Details available on <https://www.comp.nus.edu.sg/~wongls/courses/bs6213/2024/readme.html>

Assessment plan

2 homeworks for sessions 1 & 3

2 x 35% marks for the reports

Class interactions

2 x 5% marks for interactions in sessions 1 & 3

2 x 10% marks for presentations & interactions in sessions 2 & 4

Please submit a 1-page interaction report within 72 hours after each session to get interaction marks

Interaction report

1-page report submitted within 72 hours after a session

Provide a record of the questions you have PERSONALLY ASKED or PERSONALLY RESPONDED TO in a session

Provide your reflection on what you have learned from these interactions and from the session

No need to submit a report for a session if you have not participated in any interaction in that session

| Homework #1, due 21/1/2024

Read [[Yu et al., "Accurate prediction and key protein sequence feature identification of cyclins", Briefings in Functional Genomics, 22:411-419, 2023](#)]

Write a 1-page review report focusing on the way it evaluated the performance of the proposed cyclin classifier

Submit the report by email to wongls@comp.nus.edu.sg

Make 5-10 minutes presentation to the class on 22/1/2024

| Homework #2, due 4/2/2024

Read [[Srihari et al., "Inferring synthetic lethal interactions from mutual exclusivity of genetic events in cancer", Biology Direct, 10:57, 2015](#)]

Write a 1-page review report focusing on the way it tests for synthetic-lethal gene pairs. Discuss whether their test is a good one

Submit the report by email to wongls@comp.nus.edu.sg

Make 5-10 minutes presentation to the class on 5/2/2024