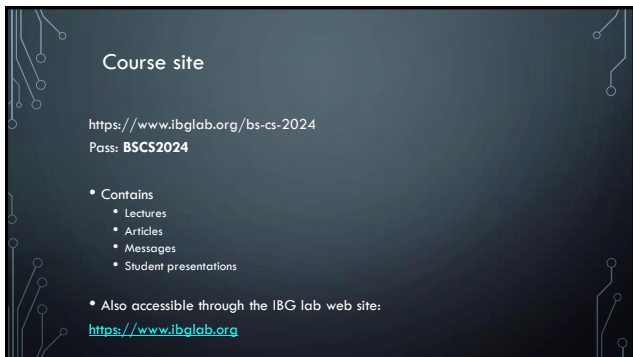


BS-CS Double major
2024 seminar
Lecture 1: Introduction

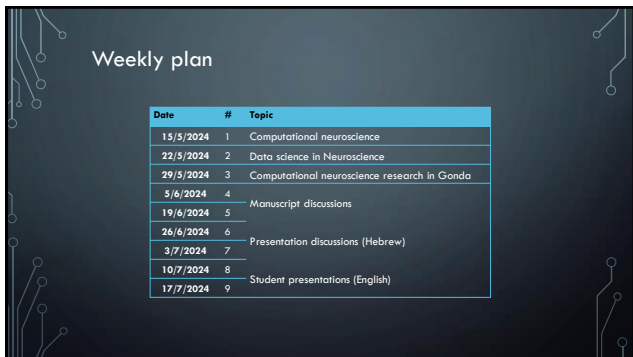
Yocheved Loewenstern
yloewenstern@gmail.com
Building 901 Room 418



Course site

<https://www.ibglab.org/bs-cs-2024>
Pass: **BSCS2024**

- Contains
 - Lectures
 - Articles
 - Messages
 - Student presentations
- Also accessible through the IBG lab web site:
<https://www.ibglab.org>



Weekly plan

Date	#	Topic
15/5/2024	1	Computational neuroscience
22/5/2024	2	Data science in Neuroscience
29/5/2024	3	Computational neuroscience research in Gonda
5/6/2024	4	Manuscript discussions
19/6/2024	5	
26/6/2024	6	
3/7/2024	7	Presentation discussions (Hebrew)
10/7/2024	8	
17/7/2024	9	Student presentations (English)

Logistics

Course grade:
90% - final lecture(s)
10% - active participation

Course location:
Gonda brain research center (901) room 102

Seminar – Week 1-3

Lectures:

1. Introduction: guideline for the seminar
2. Computational neuroscience
3. Data science in neuroscience
4. Computational neuroscience research in the Gonda brain research center

- The major sub-fields which combine brain science and computer science.
- Examples of manuscripts from each of these sub-fields.

Seminar preparation
Stage 1 – Topic and manuscript selection

- By **Week 4** choose a general topic for the seminar
 - Multiple topics will be suggested during the lecture on week 2
 - Other topics related to the general framework are encouraged
- You are expected to read 5-10 manuscripts and to create an integrative summary
 - The seminar is not about describing a single manuscript!
- During **Weeks 4-5** each student will meet with me at least once to discuss the manuscripts

Searching for manuscripts I

- Manuscripts include:
 - Research articles
 - Reviews / Opinions
 - Conference proceedings (primarily CS)
 - Book chapters (primarily older studies)
 - Case reports (primarily medical)
- Not all manuscripts have the same pedigree:
 - An article in "Nature" is typically better than one in "Ceska a Slovenska Neurologie"
- Pedigrees are defined by impact factor (IF) or others
- However, pedigree is not everything!

Searching for manuscripts II

- Search engines
 - <http://www.pubmed.com>
 - <http://scholar.google.com>
 - WebOfKnowledge
 - General search engines
- Traverse the connection graph of the manuscript (citing / cited)
- Use keywords / terms, especially in reviews

Reading an article

- Abstract
- Introduction
- Results
- Discussion
- References
- Appearance in later articles

Seminar preparation
Stage 2 – presentation discussions

- During Weeks 6-7 each student will meet with me at least once to discuss the presentations.
- General outline
- Focus

Seminar preparation
Stage 3 – presentations

- Each presentation is 20 minutes long with an additional 10 minutes for Q&A.
- During Weeks 8-9 we will meet in room 102 to hear the English presentations.

Presentations

- Keep it short and simple
 - The presentation should be 10-15 slides.
 - Do not write everything down! Use bullets.
- Few (!) slides to introduce the scientific/computation issue
- Few (!) slides to describe the general state of the art of prior solutions.
- One slide to define the research question handled by one or more of the articles.
- Few slides to describe the progress made by the specific research.
- 1-2 slides for conclusions.
- 1-2 slides for future directions.

Presentations

- The PPTs will be sent to me and put on the site at least one day before the presentation to the group.
- Final grades are based on the presentations.
- Attendance during the lectures given by your peers is compulsory.
