

Spring 2025 Syllabus for CHEM 715: Chemistry-Biology Interface (CBI) Seminar

Meyerhoff 120
Mondays, 4:00 PM – 6:00 PM
1 credit

General information

The Spring 2025 version of CHEM 715 is a seminar course that brings together all trainees in the CBI program and focuses on the improvement of scientific presentations and science communication. The course is 1 credit and meets every Monday from 4:00 PM – 6:00 PM in Meyerhoff 120. The goal of this course is to provide an outlet for CBI members to present their thesis research, to improve the scientific communication skills of all CBI members, and to build a rapport amongst the trainees and faculty who participate in the CBI program.

Instructor information

The primary instructor for the course is Prof. Aaron T. Smith. However, **the mentors of the CBI trainees are required to be present during their Spring CHEM 715 presentations.** The CBI mentors are aware that this is part of their responsibility to the CBI program, so trainees should work with the mentor when scheduling their CBI seminar.

Requirements

First year trainees are "on probation" while they complete their rotations, join a research group, and take classes. At the end of their 1st academic year participating in the CBI program, applicants submit an application package for consideration for full membership in the CBI program. If the trainee has maintained a good GPA (>3.25), joined an appropriate research group, and has a research project appropriate to the CBI (see comments below), the trainee will be officially accepted into the CBI program. Once admitted to the program, the trainee must complete the required elements listed below to maintain membership in the program:

1. Take an upper-level course in one of the other disciplines (this cannot be a course in their same Department and **must be approved by Dr. Smith**)
2. Take an NIH-approved ethics course (offered in all three Departments once a year)
3. Maintain a 3.25 or better GPA in all coursework
4. Present at two or more of the local and/or regional graduate symposiums each year, as well as additional regional, national, and international meetings as appropriate (note: NIH-funded CBI Fellows must present at least two national or international meeting each year as a requirement of their fellowship)
5. Participate in a research training opportunity with someone in another Department (or even in another University) that gives added value to the trainee's dissertation project. **The training opportunity must be approved by the Dr. Smith in consultation with the trainee's mentor.**
6. Attend and participate in all CBI activities each semester

7. Continue to make appropriate progress towards degree completion (*i.e.*, finish all milestones as required by each department on time).

Information regarding how to apply/re-apply to the CBI program is detailed on the CBI website:

<https://cbi.umbc.edu>

If a trainee fails to (i) make academic progress, (ii) fulfill the CBI requirements, (iii) maintain a >3.25 GPA for more than one semester, or (iv) transfers to a Master's degree program, the trainee must exit CBI. Each trainee is reviewed every year to ensure they are meeting all the requirements and are on track academically.

Mentors. If a trainee joins a group where the faculty member is not yet a member, the faculty must apply to the program. Not all faculty members are appropriate for membership in CBI and, unless they are a new faculty, they must have a strong track record of obtaining funding, publishing, and mentoring trainees. In addition, the trainee's Ph.D. research **MUST** be at the chemistry-biology interface, and it must have elements that involve cross-disciplinary science. CBI trainees should also have at least one member of the CBI training faculty on their committee from another Department. Ideally, if possible, the external member of the trainee's committee should be the person with whom they are doing their cross training. However, depending on the timing, it may not be possible, so this is not a strict requirement.

Course structure and attendance

The purpose of CHEM 715 is to bring together new and established members of the CBI program in order to practice scientific presentations, to improve scientific communication, to discuss important and relevant issues at the chemistry-biology interface, and to build community and rapport that fosters cross-disciplinary collaboration.

Each week, 2-3 members of CBI will individually deliver a professional, polished, and put-together scientific presentation that centers around some aspect of one's Ph.D. thesis research. Each talk will last no more than 20 minutes plus an additional 5 minutes for Q&A from the audience (*i.e.*, **25 minutes total**). **Your talk *must* include information about your cross-training work (proposed or undertaken).** Dr. Smith will be responsible for timing the individual and will use a green-yellow-red light (common to many conferences) to keep the trainee on-time.

Presentations will vary depending on the stage in one's Ph.D. program:

1st-year/probationary trainees: Audience participation only (no presentations)

2nd-year trainees: Thesis background (truncated literature review)

3rd-year trainees: Background, Aims, Prelim Results (short candidacy)

≥4th-year trainees: A single, concise story (*i.e.*, journal communication)

Attendance. CBI members are allowed to miss no more than two (2) CBI classes per semester. These dates must be cleared with Dr. Smith ahead of time, except when illness occurs unexpectedly. Importantly: everyone is expected to be in attendance for the external guests/speakers **AND** for the CBI meetings downtown at the School of Pharmacy.

Cell phones and laptops should be put away during all presentations!

Pizza time. After presentations are finished, we will have an additional 45 minutes to eat dinner and to discuss topics of interest relevant to the program. While the CBI fellows generally run these discussion sessions, ****anyone**** may suggest and run a pizza-time discussion as long as they clear the topic with Dr. Smith and the fellows first.

CBI downtown. As CHEM 715 is a multi-campus course, we will have CBI meetings downtown at the School of Pharmacy approximately once per month. Attendance is required at the downtown meetings. Parking passes will be available for those who choose to drive, and carpooling is encouraged. The CBI fellows will work to help arrange carpooling. The MTA bus as well as the UMBC shuttle also drop off downtown and may be used as alternative transportation means.

Travel funding and fellowships

Once a trainee is officially accepted into the CBI program, they are eligible for funds for travel and supplies to support their cross training. **All requests for travel and cross training funds must be approved by Dr. Smith in advance, and each trainee should cc their adviser and their appropriate funding pre-approver.** Information can be found on the CBI website to this effect:

<https://cbi.umbc.edu/requesting-usage-of-cbi-funds/>

If the CBI member is a U.S. citizen, a non-citizen national, or a permanent U.S. resident, the trainee can compete for one of the training grant fellowships provided by the NIH training grant.

New this year: As soon as you are a full member of the program in good standing (*i.e.*, you have completed your probationary period) you are allowed to apply for one of the training grant slots! The training grant slots are competitively renewed each year for a maximum of 3 years; it is not automatic that if you receive one year of support that you will receive a second (or a third). Information regarding application to full support via the CBI fellowship can be found on the CBI website:

<https://cbi.umbc.edu/cbi-fellowship-applicants/>

Spring 2025 schedule

- Feb 3** – Student presenter(s): Misti Cartwright, Meagan Bauer
(Pizza: Michael)
- Feb 10** – Student presenter(s): Candice Armstrong, Alexander Paredes
(Pizza: Sean)
- Feb 17** – Student presenter(s): Nav Raj Phulara, Nimalee Jayasekera
(Pizza: Michael)
- Feb 24** – (Hosted at UMB; attendance required)
Student presenter(s): Sean O’Sullivan, Brandon Lowe, Agbo-oma Uwakweh
- Mar 3** – Student presenter(s): Rajat Jha, Vaibhavkumar Ginoya
(Pizza: Sean)
- Mar 10** – Student presenter(s): Trisha de Jesus, Kyle Davis, Christianna Kutz
(Pizza: Michael)
- Mar 17** – No CBI (Spring Break)
- Mar 24** – Student presenter(s): Prashanta Sharma Roy, Ayo Ogunsanya, Alex Chin
(Pizza: Ally)
- Mar 31** – (Hosted at UMB; attendance required)
Student presenter(s): Sazia Arefin Kachi, Josie Daldegan Rezende
- April 7** – Student presenter(s): Charlie Waters, Durga Devkota, Kushani Mendis
(Pizza: Michael)
- April 14** – (Hosted at UMB; attendance required)
Student presenter(s): Ally Smith, Sarah Pogash
- April 21** – Student presenter(s): Michael Marciniak, Manju Ojha, Leopoldo Posada Escobar
(Pizza: Sean)
- April 28** – No CBI (Dr. Smith out)

May 5 – **Student presenter(s): Bijaya B K, Hasan Al Banna Naba Krishna Das**
(Pizza: Ally)

May 12 – **CBI Alumni Panel**
(Pizza: Sean)