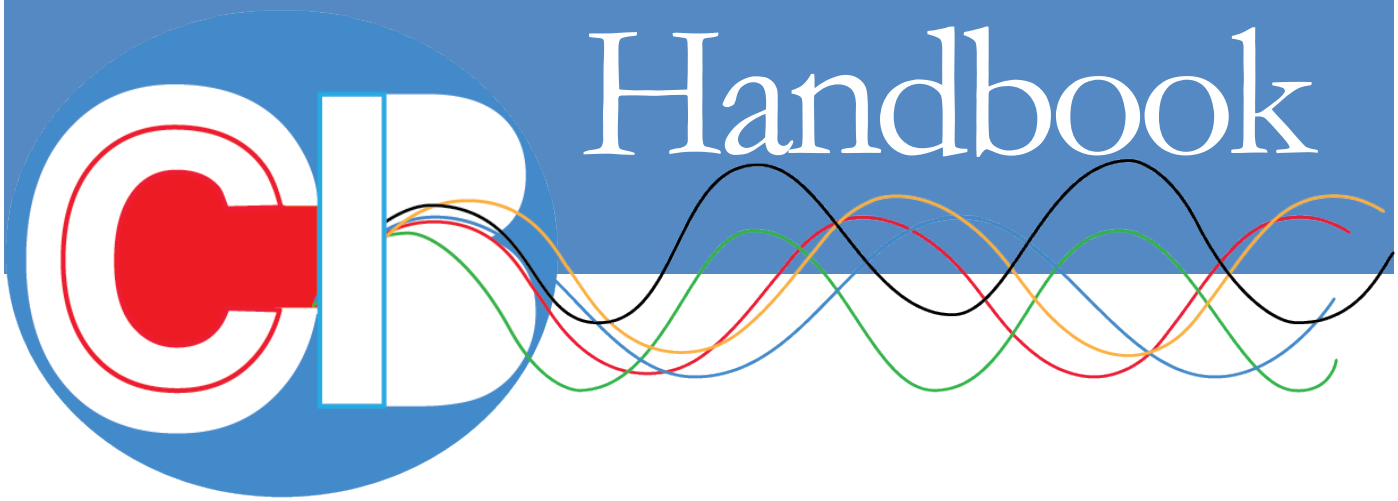
RUTGERS UNIVERSITY-CAMDEN

2019/2020

Center for Computational and Integrative Biology

Graduate Student Handbook



RUTGERS UNIVERSITY - CAMDEN

Center for Computational and Integrative Biology

Dr. Nir Yakoby
Director

Dr. Grace Brannigan
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Welcome from the graduate program director

Dear Students,

Welcome to a new academic year as a CCIB Graduate student! This graduate student handbook is designed to help you navigate the program and clarify processes in a practical and easy-to-digest format.

What you **will** find here:

- Specific information on requirements and processes
- General timeline for different pathways within the MS and PhD programs
- Answers to some of the most frequently asked questions
- Insights and suggestions for success

What you **won't** find here:

- Links to every resource available
- Requirements/procedures/policies relevant to specific labs
- Significant duplication of information already available through the Graduate School Dean of Students websites, and/or Graduate Student Success Guide.

What's **new**:

- Part 4: Community Resources covers roles, communication, supercomputing resources, and facilities in the CCIB.
- Corrections and clarifications suggested by CCIB members – keep them coming!

Graduate students play an essential role in CCIB. I hope you find this handbook useful!

Best wishes for a productive year,

Dr. Grace Brannigan

Graduate Program Director, CCIB,

Associate Professor, Department of Physics

Welcome from the Student Organizing Committee Chair

Dear fellow students,

The Student Organizing Committee (SOC) Executive Board would like to join the Graduate Program Director in welcoming you to a new academic year in the CCIB. I am excited to serve as the Chair of the SOC for this academic year alongside Vice-Chairs Sung Won Oh (Experimental) and Liam Sharp (Computational). As fellow graduate students, we would like to help you to get the most out of your time in the CCIB by fostering a welcoming, enjoyable, and productive environment for all students, both new and returning. The SOC supports CCIB students in several ways, including:

- Inviting and hosting the annual student-elected speaker for the CCIB seminar series
- Selecting and organizing student outings and social activities
- Leading discussions and choosing papers for CCIB Journal Club, a weekly forum to discuss scholarly articles
- Hearing student concerns and suggestions twice per semester at open committee meetings
- Representing the CCIB student body in the Graduate School by sitting on the Graduate Student Advisory Council
- Facilitating CCIB student involvement in community outreach activities, such as Rutgers Day and the Philadelphia Science Festival
- Liaising between students and the CCIB Director and Graduate Program Director about student body concerns

The SOC was officially founded in 2018 by Daniel Russo to ensure the representation of the interest of the CCIB student body on campus. We encourage CCIB students to join the Committee to communicate with us about concerns that they feel may need to be raised either within the Center or the Graduate School. Becoming a member of the SOC gives you a voice in the issues that the Board raises and events we plan. It also gives you voting privileges for the student speaker and executive board elections.

The Executive Board encourages questions and feedback to make sure we are genuinely acting in the interest of the CCIB student body at large. I am accessible by Slack using @heather, or by e-mail at heather.ciallella@rutgers.edu. To address the whole SOC Executive Board, head over to the #ccib-soc Slack channel and use the tag @socboard.

Sincerely,

Heather Ciallella
Student Organizing Committee Chair
Academic Year 2019-2020

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Part 1

Part 1: Progression and Requirements

The CCIB Grad Program offers three degrees : MS Plan A (thesis), MS Plan B, and PhD.

Your pathway to graduation will depend on which one you're in and (if you're in the PhD) whether you already completed an MS. This is because there is significant overlap between the MS degrees and the pre-qualifying stage of the PhD degree.

The distinctions among these timelines are shown in Figure 1, broken down by activities, required courses, milestones, and selection deadlines.

Activities

Expected activities within the graduate program include, but are not limited to:

- Taking **C**ourses
- **R**esearch within lab
- Research rotation
- **M**eeting with your committee
- **P**resenting at the CCIB Seminar
- **W**riting and compiling your Independent Study/Thesis/Dissertation

Not every program or track involves all of them; Figure 1 shows how these activities fit into the expected timeline for each graduate track. Frequently asked questions about each activity follow.

Figure 1 : Expected Timeline. For each semester and each program, expected activities (research, courses, etc) are given in capital letters (see legend). Specific required courses are given in lower case letters, noted in the semester in which they're usually taken. Selection deadlines are in pink.

MS

Plan	1	sel	2	sel	3	sel	4	Milestone
A	C/(T or R) s/d	Advisor (PI)	C/R s/d		C/R s/d	Committee	C/R/W s/p	Thesis Defense
B	C s		C s	Mentor	C/W s/i		C/W s/i	

LEGEND

Activities (cap letters)	**Specific Required Courses (lower case):**
C: Courses	l: Lab Practices
R: Research within lab	m : Manuscript & Proposal Composition
T: Research Rotation	s : seminar
M : Committee Meeting	i : independent study
P : Present Seminar	p : masters project
W : Writing Thesis/Dissertation	d: dissertation research
Selection deadlines in pink	ftc: register for one credit only

PhD

Prior Graduate Work	Semester												
	1	sel	2	3	sel	4	Milestone	5	6	7+	...	Final	Milestone
None or non-CCIB MS*	C T or R l/s/d	Advisor (PI)	C/R s/d	C/R/P m/s/d	Committee	C/R s/d	Qualifying exam	R/P ftc	R/M ftc	R M (annually) P (spring semesters) ftc		W ftc	Dissertation Defense
CCIB MS Plan A with advisor change or Plan B	T or R l/s/d		R s/d	R/P m/s/d		R s/d	Qualifying exam**						
CCIB MS Plan A with same advisor	R l/s/d		R s/d	R/P m/s/d		R s/d	Qualifying exam**						

*Up to 3 courses can be transferred in from a non-CCIB grad program, with approval of GPD, so ~1 semester of courses would be removed.

** Four semesters is maximum pre-qualifying period, but shorter is possible when following a CCIB MS.

Courses

CCIB has some specific course requirements as well as general course requirements. If you are an MS student, you will take courses during most of your degree. If you are a PhD student, you are expected to finish your required courses by the end of your fourth semester.

Which classes do I need to take?

MS students

- ☐ 4 seminar credits
- ☐ 24 "elective" graduate level course credits (8 classes)
  - 4 of the 8 courses must be non-Essentials Courses.
  - 1 of the 8 can be a rotation the first semester.
  - 5 credits can be dissertation research credits (Plan A only)
- ☐ 6 Masters Project credits (Plan A)
- ☐ 6 Independent Study credits (Plan B)

PhD students

- ☐ 4 seminar credits
- ☐ Lab Practices
- ☐ 24 "elective" graduate level course credits (8 classes)
  - 4 of the 8 courses must be non-Essentials Courses.
  - 1 of the 8 can be a rotation the first semester.
- ☐ (entered Fall 2016 or later) Manuscript and Proposal Composition
- ☐ (entered Fall 2016 or later) 39 dissertation research credits
- ☐ (entered prior to Fall 2016) 40 dissertation research credits

How do I choose the 8 elective courses?

Semester 1: GPD will make course recommendations to you based on your background and interest - and if you have a PI already, the PI can provide input.

Semester 2-4: PI should recommend your courses based on goals and background needed to complete research.

What does "ftc" mean? Do I have to take classes after my qualification exam?

Yes, but only for one credit. Usually this would be 56:121:710 (Dissertation Research). You are still considered a full time student for visa/student loan purposes as long as you also fill out the full time certification form (the PhD Student (ABD) Full-Time Certification at https://graduateschool.camden.rutgers.edu/current-students/forms/).

I need a class that RUC doesn't offer.

Students can take courses at New Brunswick or Newark with no additional tuition costs, after filling out the "Transient Credit" Form at https://graduateschool.camden.rutgers.edu/current-students/forms/. Alternatively, if you think it's a class that many students in CCIB could benefit from, let's talk about getting it taught here!

Can I take a 300-level class?

Yes, up to two 300-level courses. This also requires the "G-Prefix" form at at https://graduateschool.camden.rutgers.edu/current-students/forms/ and approval from the GPD, but is almost always approved.

I received a non-CCIB MS. Can I get credit for these courses?

You can transfer in up to 3 courses, with the "Transfer Credit Form" at https://graduateschool.camden.rutgers.edu/current-students/forms/ and approval from the GPD. If you are an international student, you need to get WES evaluation/ certification.

What about a CCIB-MS?

All courses transfer (no paperwork required), although you need to still be registered for Seminar until you pass the qualifying exam.

I'm trying to register but it says I need a special permission number (SPN).

The CCIB Secretary (Peter) will provide these. As of August 2018, please request these through the #ccib_spn channel on slack. Dissertation research and seminar spns will be provided for all students in a list and you should not need to request them separately.

Why am I required to take ___ class?

56:121:601 **Seminar (s)**: Seminars are how scientists present their work to each other. CCIB has a weekly seminar (Tuesday Free Period) with speakers from other universities or industry, CCIB faculty, and CCIB students. To get you in the habit of going and learning how to listen to and process seminars, MS students and PhD students in their first two years are required to be registered for a seminar "course".

Post-qualifying PhD students are expected to attend without requiring the structure of a course.

56:121:620 **Lab Practices (l)** : This course is evolving, but is intended to satisfy NIH requirements for instruction in Responsible Conduct of Research.

56:121:630 **Manuscript and proposal composition (m)** : This course is also evolving, but we initiated it because PIs observed that many students (regardless of lab) had common challenges and blind-spots in producing publication-quality manuscripts or fundable proposals. The goal of this course is to address these blind-spots all at once, in a group setting, and to teach you common tools and approaches for scientific writing.

56:121:710 **Dissertation research** (d) : This is a course associated with your research activities – credits through this course count as "research credits".

56:121:701 **Masters Project** (m) and 56:121:585 **Independent Study** (i) : These are required courses for the MS Plan A and Plan B tracks respectively, to give you credit for composing your thesis or writing your review paper.

Research

You've been admitted into the CCIB graduate program because we believe you have the potential to complete an original research project. To graduate with a PhD or MS Plan A, you will need to convert that potential into research results that answer an interesting and relevant question in your field. These results will need to hold up to scrutiny by your committee, and PhD research will usually need to be communicated via peer reviewed publications.

How do I choose the lab I'll be in?

Students match with a lab one of a few different ways:

- Reach out to a specific faculty member before they start the program.
- Do a rotation through three laboratories their first semester, and choose the best match at the end of the semester. (See **Rotation**)

Do I need to come up with my own thesis research project?

In practice, no. In the CCIB graduate program, you are learning to do rigorous research in the hard sciences. Answering questions that have not been answered before is very challenging - **much** more challenging than taking classes.

Formulating the questions is even harder and usually graduate students don't start with this! Your PI will usually start you out with a main question they have already thought about. Sometimes they will have research funding for it, which means your support is tied to that specific question.

It is expected you will become more independent over time and would take a larger role in formulating questions before receiving a PhD.

How do I know when I've done enough research to graduate?

Your advisor and your committee will make this determination, depending on whether you are doing the MS or PhD. There is no hard cutoff, but most students publish at least a few papers before receiving a PhD.

Am I expected to do research/be in the lab over the summer?

Yes. There are special circumstances that may arise, but in almost all cases it is expected that PhD students will continue their research over the summer. Summer is an extremely valuable time for lab research because faculty are able devote their time to research over the summer. Most PIs will be actively involved in research projects over the summer in a way they just aren't going to be able to during the school year. Research obstacles are

more likely to be overcome and papers are more likely to get finished and submitted during the summer break.

Would it make sense for me to do an internship?

Almost never. The primary reason is that doing an internship, even over the summer, will increase your time-to-degree. In addition to the time away from the lab, summer internships mean you'll be losing out on valuable summer interactions with your PI, who will be much busier during the academic year. Early publications and progress can also be critical for getting research funding for the remainder of a PhD. For information on summer funding, please see **Part 2 : Funding**.

One exception: If you are a very senior PhD student, who has passed the five-year CCIB-funding limit and/or will be graduating imminently, an internship might make sense.

In all other cases, internships not closely related to graduate research are discouraged. Regardless, all internships should be approved by your PI prior to your application. Failing to get this approval may jeopardize your future funding status, membership in your PIs lab, and enrollment in the program.

Rotation

Do I have to do a rotation?

You do if you are a PhD Student and you have not already spent significant time in your proposed lab (like doing a MS). If you are an MS student you may, but you do not have to.

How many labs will I rotate through?

Three over the course of the semester.

How do I choose the rotations?

At least one rotation must be in a computational lab and at least one in an experimental lab. A list of potential labs (for both self-funding and CCIB-supported students) will be provided during CCIB orientation.

I don't think any of the three labs I rotated in is a good match. Can I choose a different lab?

If the PI is willing (and if you are a CCIB-supported student, if the PI does not already have too many CCIB-supported students), yes.

Why does it matter how I'm funded?

We need to spread CCIB-support in a fair way across graduate faculty, so labs that already have too many CCIB-funded students will not be eligible for rotations from additional CCIB-funded students.

We don't have to worry about this for self-funding students, so they usually will have a wider selection of labs to choose from.

What should I be doing during my rotation?

Each rotation will be about three weeks long. They are short rotations. You'll need to use this time wisely to become familiar with the research and approaches used by the PI, lab culture and practices, and the experiences of any students/postdocs in the research group.

You might also spend time:

-Reading papers by the PI and other members of their field

-Doing background reading to be able to understand these papers (textbooks can be very useful here, don't overlook them)

-Speaking with other group members about their research

-Speaking with the PI about a potential project you could do for your thesis/dissertation

-Learning and practicing techniques used in the PIs lab

-Attending research group meetings

Do I need to turn anything in?

There is a single form that needs to be signed by the lab PI for each of your rotations, at the beginning and end of each rotation period, to be turned into the GPD by the end of the semester.

Committee Meetings

You must defend your review article, thesis, or dissertation before a committee in order to graduate. If you are a PhD student, your advisory committee also oversees your qualifying exam, and will also meet with you at least annually until your defense.

I'm a MS Student. Who needs to be on my committee?

Three faculty members, including :

☐ CCIB experimental full member

☐ CCIB computational full member

☐ CCIB associate or full member

Your PI/mentor will fulfill the role of either the experimental or computational full member, and will also serve as the committee chair.

I'm a PhD Student. Who needs to be on my committee?

Four faculty members, including :

☐ CCIB experimental full member

☐ CCIB computational full member

☐ CCIB associate or full member

☐ External (outside RUC) member in a TT position or equivalent

Your PI will fulfill the role of either the experimental or computational full member, and will also serve as the committee chair.

STUDENT TASKS

☐ Discuss committee with PI

☐ Request participation from each committee member

☐ Send a list of committee members to the GPD for approval (PhD Only: include a copy of the external member CV)

☐ (PhD only) Send external member CV to Bethany Lawton to get them added as graduate school adjunct

When do I need to form my committee?

By the end of the third semester in your second year.

How often do I need to meet with my committee?

Most students do not meet with their committee until their MS defense or qualifying exam. For post-qualifying PhD students, you should meet at least once a year until your defense.

Presenting

PhD students past their first year are required to present a seminar once a year, as well as a poster at the CCIB Retreat.

I'm first year MS or PhD student. Do I need to present?

No.

I'm a second year MS Plan A student. Do I need to present?

Probably not in seminar, although you do need to present a public defense, and you may also be requested to present a seminar your second year if there is room in the schedule. You do need to present a poster at the CCIB Retreat.

How many other students will speak during my presentation session?

You'll share the time with one or two other students.

How long should my seminar be?

15-20 minutes.

Which semester will I present in?

Second & Third year students : Fall semester

Fourth years and beyond : Spring semester

My assigned semester won't work. Can I switch?

Not unless you have extenuating circumstances. If you do, then you'll need to get approval of your PI and the GPD.

How do I know what day my seminar is?

There will be 3-5 student presentation days per semester. Before the semester starts, the Manager (Karen) will let you know the available days and ask you to check with your PI. Then you'll send the Manager your first choice day, any presentation days for which you or your PI absolutely cannot be present, and the title and abstract for your seminar.

I'm signed up for a certain day but now something has changed and I can't do it that day.

If your PI agrees, to switch you'll need to

- ☐ work out a new date with Karen and your PI
- ☐ notify the Grad Program Director and Secretary
- ☐ verify that dates are changed on the webpage schedule

Writing

I'm about to start putting together my thesis (MS) or dissertation (PhD). Where can I find formatting guidelines?

The graduate school thesis style guide is at

https://graduateschool.camden.rutgers.edu/files/Thesis-Style-Guide.pdf

The dissertation style guide is at

https://graduateschool.camden.rutgers.edu/files/Dissertation-Style-Guide-2015.pdf

Amy Liberi (in the graduate school) provides the final word on questions involving dissertation formats.

How do I know how long my thesis/dissertation should be or what should go in it?

You will need to discuss this with your PI, as every PI has different expectations. It can also be helpful to look at previous theses from your research group.

How do I turn my thesis/dissertation in?

Please follow the guidelines for your degree at https://graduateschool.camden.rutgers.edu/graduation/

I'm a Plan B MS student. What do I have to write?

A comprehensive review paper of an area of research relevant to the CCIB. Your mentor (selected before the beginning of the second semester) will outline their expectations for you.

Milestone Exams

Defense

What is a defense?

A public oral presentation on original research you completed that is reported in your thesis or dissertation, followed by private questions with the committee.

STUDENT TASKS

Before defense:

☐ Write or compile your thesis (see "Writing" section)

☐ Arrange a date for the thesis defense with the committee.

☐ Arrange for a room with Peter (check your PI's preference first; defenses are usually in the SCI lecture hall or the first floor of the Waterfront Technology Center)

☐ Request an announcement of an MS or PhD thesis defense from Peter. You will need to send your title and abstract.

☐ Distribute your thesis to the committee. (Recommendation: Two weeks prior to defense for PhD, one week prior for MS)

☐ (PhD only) Fill out the paperwork at https://graduateschool.camden.rutgers.edu/faculty/phd-exam-cert/

☐ (PhD only) Coordinate and test arrangement for remote committee members ahead of exam. The two most common options are Skype or Slack (External members can be added as a CCIB guest) - but it is important that the presenters screen be shared through the software.

After defense:

☐ Make any changes requested by the committee

☐ Get your signature page signed by all members and turn into the graduate school.

☐ For graduation, you also need to follow all Graduate School instructions under "MS (thesis option) candidates" or "PhD Candidates" at https://graduateschool.camden.rutgers.edu/graduation/

MENTOR TASKS

☐ Provide signatures on forms initiated by the student

Who needs to be there?

☐ Student

☐ Committee

☐ Open to public audience for first part of exam

When does this all have to happen?

- Committee Selection : End of third semester.
- Scheduling: The announcement of the defense must be made at least one week before the defense.
- Defense itself:
  - Roughly : Last few weeks of the semester intended for graduation
  - Hard deadline : 1 week PRIOR to the deadline for "Deadline for Submission of Application for Admission to Candidacy for Degree *Certificate and Thesis* Dissertation" at Graduation – Graduate School of Arts and Sciences

PhD Qualifying Examination

What is it?

A written proposal and oral presentation on work already completed and the proposed project for the PhD.

STUDENT TASKS

☐ Get committee approved by GPD and the Graduate School (see "Committee" section)

☐ Write a proposal for your PhD research. It should be structured like a fellowship proposal. Typically it will be between 12 and 20 pages.

☐ Arrange a date for the qualifying exam with the committee.

☐ Notify the graduate school to generate forms for the committee and graduate program to sign by filling out this form: PhD Examination Certification Request – Graduate School of Arts and Sciences

☐ Arrange for a room with Peter (check with your PI's preference first; in general, public qualifying exams are usually in the SCI lecture hall or the first floor of the Waterfront Technology Center, while private exams can be in any of the seminar rooms used for group meetings)

☐ Coordinate and test arrangement for remote committee members ahead of exam. The two most common options are Skype or Slack (External members can be added as a CCIB guest) - but it is important that the presenters screen be shared through the software.

☐ Give a presentation to the committee about work you've done so far, and your proposal for going forward. (This can be public. It doesn't have to be.)

After student passes:

MENTOR TASKS

☐ Sign the paperwork from the Graduate School

☐ Send a short report from the committee chair to the GPD outlining the exam, confirmed by the rest of the committee (faculty can request a sample from the grad director)

☐ After approval of the report by the GPD, send the report and the student's proposal to Peter for student's file.

When does this have to happen?

Scheduling: The GPD must be notified of the committee AND the date for the exam by March 1.

Exam itself:

Recommended: By April 1 your second year

Harder deadline: By July 1 for you to count as post-qualifying for the subsequent fall semester. (If you will be on a GA, this is necessary for reducing your tuition cost !!!!)

Who should be there?

☐ Student

☐ Committee

☐ (Optional) Public audience for first part of exam

Part 2

Part 2: Funding

Salary and Tuition

Academic Year

Do I have to pay for graduate school? Or will they pay me?

Specific funding expectations depend on which of the following scenarios you were admitted under:

Self Fund - You fund your entire MS or PhD. You are still eligible for hourly pay, a fellowship that reduces tuition to nearly in-state levels, even if you are not an NJ resident, and other fellowships from the graduate school.

GA Admission - You were admitted by the PI, who must have at least 3 years of funding available, and who must plan to support you for your entire PhD. Admission must still be approved from the admissions committee, but will usually be granted unless there are unusual circumstances. You are not guaranteed funding if you leave that PIs lab, although it is possible a new lab would pick up your GA.

TA Admission (PhD) : You were admitted through the general admission process with a TA line. You are guaranteed full funding (tuition + fees + insurance + stipend) for five years, *pending satisfactory performance*.

- Year 1 & 2: Full funding automatically comes from a CCIB TA line.
- Year 3+: it is expected you will be funded through an external fellowship or line. It is up to you or your PI to fund the GA. If you do not have this funding available, you still have guaranteed access to a CCIB TA line through Year 5 (see conditions below).

Who decides what class I TA for?

The CCIB GPD only decides what department you TA in. The departments themselves then assign TAs to courses.

You may or may not TA in your PI's home department, depending upon the distribution of TA skills and the number of agreed upon departmental TA lines.

It's Year 3 or later, and my PI doesn't have grant or startup funding available, and I don't have a fellowship. What now?

If you don't have other funding and are performing satisfactorily, you may stay on a TA line Year 3-5, and sometimes Year 6. But your PI must be actively seeking support for you, which may include asking you to apply for fellowships.

You can search for fellowships for students and federal postdoc opportunities at grantforward.com. You should be able to login with your netid.

Summer

Will I get paid over the summer?

Funding over the summer in the CCIB depends on the lab and the student, but generally, yes. It is usually arranged separately from academic-year support.

Is there a standard arrangement?

Yes. Your PI pays $3500 and CCIB pays $500. In Spring, the GPD or business manager will solicit requests to participate from PIs.

Can my PI pay more than $3,500?

Yes, some PIs can and do, depending upon available resources in a particular year. It does not affect the CCIB contribution.

Can my PI pay less than $3,500?

Not in the standard CCIB arrangement. If the total PI contribution is less than $3500 for the summer, CCIB will not pay the match.

Is it okay to ask my PI about this?

Yes, discuss it with them well before summer starts! If your PI cannot fund you for the summer, it is fair for you to know as soon as possible.

What if my PI can't pay me anything over the summer?

If you're on a **10-month GA line**, you can request through payroll that it be distributed over a 12 month cycle so you don't have a break in pay.

If you're on a **10-month TA or GA line**, you would also be eligible for any available teaching positions during the summer session.

Other Research Expenses

What kind of internal funding is available for me?

In addition to internal fellowships, the Graduate School provides some funds for travel and small research expenses. These are all listed under "Student Funding" at at https://graduateschool.camden.rutgers.edu/current-students/

I want to go to a conference, is there funding available?

You can apply for the Dean's Graduate Student Conference Travel Grant, a $500 award from the Grad School that CCIB automatically matches with $500. You need to apply using the link at https://graduateschool.camden.rutgers.edu/current-students/ *before* the conference. You must file for reimbursement through the CCIB secretary (not your PIs home department) and let the secretary know you have the Conference Grant.

There is no additional procedure to get the CCIB match; it is automatic.

Part 3

Part 3: Conduct, Conflicts, and Concerns

This section touches on several personal and interpersonal challenges that can arise during graduate training, but cannot possibly cover everything.

Starting in Fall 2018, the GPD will host a graduate student "Strategies, Perspective, and Available Resources" (gSPAR) hour **twice a semester.** They are not mandatory, but they are a chance for CCIB graduate students to discuss conflicts and concerns specific to graduate training without their PI present.

Student Conduct

Science is a communal activity; these communities include your lab, your department, your field, other fields with potential collaborators. Learning to be a scientist requires learning to work within these communities.

Doesn't RU already have a student code of conduct?

Yes, it does; the Rutgers University Student Conduct Summary is:

> A university in a free society must be devoted to the pursuit of truth and knowledge through reason and open communication among its members. Its rules should be conceived for the purpose of furthering and protecting the rights of all members of the university community in achieving these ends. All members of the Rutgers University community are expected to behave in an ethical and moral fashion, respecting the human dignity of all members of the community and resisting behavior that may cause danger or harm to others through violence, theft, or bigotry. All members of the Rutgers University community are expected to adhere to the civil and criminal laws of the local community, state, and nation, and to regulations promulgated by the university. All members of the Rutgers University community are expected to observe established standards of scholarship and academic freedom by respecting the intellectual property of others and by honoring the right of all students to pursue their education in an environment free from harassment and intimidation.

More information on Rutgers University policy and how to file a complaint for violation of that policy is available through the Dean of Students office at https://deanofstudents.camden.rutgers.edu/

Does CCIB have additional expectations?

Some unprofessional student conduct may not be so disruptive that it breaks official RU policy, but if you keep doing it, it will cause distress to other students and/or harm your own future career.

Being a scientist can require receiving very direct criticism about your work. In a supportive scientific community, it's especially important to balance this out by consideration at a personal level.

As an example, it's useful to consider "Is what I'm about to say **kind, necessary, true**?" because:

> Untruthful speech should be particularly avoided by scientists, especially in a professional setting.

Even if it is truthful, most unkind speech is also unnecessary, and should also be avoided.

> An exception: truthful and seemingly unkind comments can be a necessary part of scientific training and the scientific review process. All scientists receive them, and as you go through your scientific career you'll have increasing responsibility to give this feedback.
>
> As a student, the areas where you need to do this will be limited and usually designated by faculty.

Truthful and kind speech may actually be more necessary than you think.

A fellow student is being repeatedly inconsiderate, disrespectful, or unkind. What can I do?

CCIB expects all students will treat each other with respect and consideration; if a fellow student makes statements that are unnecessary and unkind, let them know you see them that way. We expect that most of our students are pretty fair and gracious people who would rather not unduly upset each other if they can help it.

If you're not comfortable with that or if it doesn't stop the behavior, ask the GPD or Dean of Students office for a more structured mediation.

My behavior doesn't violate any policy. So what's the problem?

Even if you are not in strict violation of a policy, poor conduct reduces your chances of future success. Concerns like this may originate from your PI, or from other faculty members. The GPD will consult with your PI, and you may be asked to have a Conduct Improvement meeting.

This required meeting could include your PI, the CCIB GPD, Director, faculty member who witnessed conduct, or a subset of these faculty members depending on need and circumstance. The purpose is to discuss how such conduct could reduce your success in the future, as well as more desirable alternatives. It is considered a pedagogical rather than a disciplinary meeting.

Student Well-being

I'm really struggling with _____. It's not even related to graduate school but it affects my performance.

The Dean of Students office is a great resource for a range of personal student concerns, ranging from housing to medical issues to general student well-being. You can reach out to Mary-Beth Daisey daisey@camden.rutgers.edu

You may also consider accessing mental health resources at

https://healthservices.camden.rutgers.edu/psychinfo

Is it normal for graduate students to need mental health resources?

Yes! It's pretty common for graduate students (within CCIB and elsewhere) to find them helpful and/or necessary. Your brain is working overtime, so please take care of it!

I have a concern about safety or well-being of another student.

Please consider reaching out to your PI, that student's PI, CCIB leadership, or filing a report at https://deanofstudents.camden.rutgers.edu/reporting, which will notify someone from the Dean of Students office to reach out to them (this report can be anonymous).

I believe I'm being physically threatened or sexually harassed.

This is urgent. Tell someone about your concerns as soon as possible. This could be your PI, the CCIB GPD or Director, Mary Beth Daisey in the Dean of Students Office, or depending on the situation, the Rutgers-Camden police.

You can get more information about the University's commitment at https://deanofstudents.camden.rutgers.edu/interimstudentsexualpolicy

What if it's by someone in the CCIB who has power over me?

CCIB is committed to addressing and preventing abuses of power by its members. In 2018, the CCIB adopted this statement into its bylaws:

> The CCIB recognizes that scientific communities are necessarily highly hierarchical due to the discipline required for rigorous research and training. CCIB members shall follow the Rutgers University policies, including code of ethics, Conflict of Interest, and abuse of power. The CCIB will consider abuses of the trust implicit in this hierarchy particularly seriously.

Not every incident that a student believes is an abuse of power will be considered one by the Rutgers University administration. But they will all be taken seriously and without reprisal for the student.

Student/PI conflicts

Mediation and Resolution

I'm unhappy with my PI.

Our goal is for you build your scientific strength. Like a personal trainer, it is a PI's job to push you out of your scientific comfort zone. And like a personal trainer, we want to push you in a way that strengthens you, not that causes permanent injury.

How do I know which is which?

You can make an appointment with the Graduate Program Director to confidentially discuss concerns. They may ask to meet with your PI as well after meeting with you, or have a joint meeting.

The Graduate Program Director is also my PI.

As the GPD I hope you will feel comfortable bringing up your concerns with me – but if you don't feel you can, please make an appointment to meet with the CCIB Director. They will take over the role of the GPD in your case, while I will only wear my PI hat.

What kind of concerns or conflicts are common in an advisor/advisee relationshihp?

These are some of the most common concerns from students about their advisors.

1. My advisor is not available often enough. I thought we'd be working more closely together.
2. My advisor micromanages me. Why are they telling me to do something I'm already doing?
3. My advisor says they don't like my writing or figures but doesn't tell me how to fix it. They just say "redo it".
4. My advisor is so harsh. I'm trying so hard but they seem angry at me all the time. Maybe I don't belong here?
5. My advisor is too nice and understanding. I need them to enforce firmer deadlines or else I won't get anything done.
6. I keep trying to talk to my advisor about my ideas for potential research projects, but they keep dismissing them.
7. I gave a paper to my advisor a while ago and they're just ignoring it. I did a lot of work on it, so why aren't they doing their part?
8. I'm a junior student being supervised by a senior student or postdoc who doesn't know how to mentor. I can't learn anything from them.
9. I'm a senior student who spends way too much time helping out newer students. I don't have any time for my own work!

10. My project isn't working and my advisor isn't able to make it work. I wish they would see that it's hopeless and I'm wasting my time.

11. It's time for me to graduate but my advisor doesn't see that.

Much of the time, these concerns are part of adjusting to a mentoring relationship that is different from one you've ever had before. In some situations, your advisor may have motivations or goals that are not apparent to you.

Even though they are common concerns, how you address and grow through these concerns is likely to affect your success as a graduate student. It can be useful to discuss them with other students, so if one of these describes you – even if you don't think it requires a one-on-one meeting with the GPD - I especially encourage you to **come to the next gSPAR meeting.**

For perspective, these are some of the most common concerns from graduate advisors (not just those in the CCIB!):

1. My student is talented, but has very poor work ethic. It's frustrating when I know they could do a better job...but they just won't!

2. My student is very smart and dedicated but doesn't trust me to advise them. They don't understand the expected role of a PI.

3. I have a defensive student who nitpicks my feedback rather than listening to the overall message. I can never communicate required changes to them because they always find reasons to convince themselves I'm wrong.

4. My student gets really upset whenever I give them criticism or negative feedback, and so they don't improve. But I know they're capable of doing better and want them to have the confidence of a job well done.

5. My student won't get their paper out the door. It's close, but getting it submitted requires a concentrated effort and they don't seem to realize the importance for them or for me.

6. My student is a good student who is inconsiderate to others. I'm worried after they graduate they'll be less successful than they could be because they'll alienate their colleagues.

7. My student fails to satisfy their obligations too often. They always say they're sorry and have an excuse - but they never do anything to make up for it, so they just fall further and further behind.

8. My student is progressing much too slowly and doesn't seem to realize it.

You might not think any of them describe you, but chances are that at least one of them does. It may be different from the one you think - if you feel comfortable, try asking your PI.

Termination of a PhD advising relationship

What if my advisor doesn't think I'm "progressing" in my PhD?

If you get to the qualifying exam stage but the committee (including your advisor) is not confident about your ability to complete a PhD, you will be awarded a terminal MS.

I'm post qualifying, but before Year 6. Can my advisor kick me out of the program? Aren't I guaranteed funding through Year 5?

If your advisor loses confidence that you will complete a PhD, they can refuse to keep advising you. This is not a decision most advisors take lightly or willingly, and it has happened very few times in the program's history.

If you can find another advisor, depending on your progress so far, you might be able to still complete your PhD within the program. The farther along you are, the more papers you've published, and the closer the new advisor is to your old advisor's project, the more likely this will happen. If you find another potential advisor, the change must still be approved by the Graduate Program Director.

If no other PIs will agree to advise you, you will have no options for completing a PhD and will meet the criteria for dismissal.

I'm post qualifying, Year 6 or later.

Funding for Year 6 students is already scarce, even for students who are progressing well. The typical resolution here is for students to self-fund or become only partially supported by the program, taking on much more of their responsibility for completing their PhD.

Academic Warning, Probation, and Dismissal

If you fail to maintain the required GPA, fail to make progress toward milestones, or have no feasible path to degree, you may be dismissed from the graduate program. In practice, to successfully appeal a dismissal to either the Program Committee or the Graduate School, you will need to present a reasonable path to degree. The formal policy is

MS and Pre-qualifying PhD

Each semester, the program committee reviews the scholastic record of all students in the program and decides about warnings, probation, or dismissal. The graduate program director notifies students of any action taken. Students who have a grade below B in a course receive a warning. Students whose records show more than two courses with grades below B or whose GPA is below B may be dismissed. Students may appeal in writing to the program director within one month of the decisions. Acceptable grounds for appeal are technical errors, new information, or extenuating circumstances.

Post-qualifying PhD

In all but extreme cases, students must be placed on at least one semester of probation by the Graduate Program Director (GPD) (not the advisor) before dismissal.

Initiating Probation. Probation for a post-qualifying student can be triggered by the following: 1) Two consecutive or three non-consecutive committee reports with progress from Previous Meeting that is "Significantly Below Expectations" **or** 2) Request from the PI to the GPD that the student be placed on probation, with justification and a summary of what the student must do to to get off probation. The GPD has the option to request that the PI go through the committee process above.

Concluding probation. The student must have at least one committee meeting during the probationary period, with the GPD present. After meeting with the PI, student, and committee members, the GPD can make one of three possible decisions: 1) Dismissal. The student can file an appeal with the graduate school. 2) Probation is extended for one semester, under a new advising structure. This could include a switch to an entire new lab or a much larger role for a co-advisor. 3) Student returns to good academic standing.

Students at any stage may further appeal dismissal to the Senior Associate Dean of the Graduate School at Rutgers Camden.

Part 4

Part 4: Community Resources

People and Roles

Inside CCIB

Who should I talk to about ___?

Like any organization, CCIB divides work among people in several different positions. Some of the positions are held by faculty in their "service roles", which means they're doing some work for the institution in addition to normal teaching and research.

Many are elected positions with well-defined terms, like a mayor, rather than long-term jobs like a school principal. This means that during your graduate career, the person who does the job of the CCIB director, graduate program director, department chair may change, but the issues you should bring to them won't.

Role within CCIB	Reach out to discuss…	2019/20 Held by… (email/slack handle)
Director	- Serious concerns that you don't feel comfortable discussing with the GPD (including PI conflicts if the GPD is your PI).	Dr. Nir Yakoby yakoby@camden.rutgers.edu @yakoby

Graduate Program Director	- Course selection your first semester and questions for subsequent semester. - Course transfers. - Major or ongoing conflicts with your PI. - Concerns about TA assignments. - Need for health accommodations. - Concerns about your progress, and decisions about continuing in the program. - Serious concerns about conduct of CCIB members not in your research group - Questions about anything else covered in this manual.	Dr. Grace Brannigan grace.brannigan@rutgers.edu @gbrannigan
Business Manager	- When an office or administrator is not being responsive to your request for travel arrangements, keys, announcements, obtaining housing, etc.	Karen Taylor kdt41@camden.rutgers.edu @kdt
Systems Administrator	- Questions about/problems with running on the Amarel supercomputer.	Tom Skipper tom.skipper@rutgers.edu
Secretary	- Reimbursements - Travel arrangements - Announcing your defense - Special permission numbers	Peter Fazzino fazzino@camden.rutgers.edu @Peter (CCIB Secretary)
Student Event Assistant	- Offers to help with events	Heather Ciallela heather.ciallella@rutgers.edu @heather

Student Website Assistant	- News that you won an award, published a paper, got featured in some press - Reports of website inaccuracies, broken links, etc	Lingyu Guan lg614@scarlet-mail.rutgers.edu @lingyu
Student Organizing Committee (SOC)	- See the welcome letter in the following pages	Heather Ciallela @heather, Liam Sharp @liam, Sung Won Oh @sungwonoh
Your PI	- Any questions related to carrying-out research, **and** - Before applying to conferences or agreeing to present your work - Before applying to internships or fellowships - Before scheduling your defense or qualification exams - Before reaching outside the group for specific research-related questions, especially to other non-CCIB faculty - Questions about scientific research integrity and ethics related to your particular project - Serious concerns about conduct of other lab members	

Outside CCIB

Roles Outside CCIB	Reach out to discuss…	2019/20 Held by…
Department Chair (for your TA assignment, check Department webpages for contact info)	- Which course you will be TAing	Dr. Daniel Shain (Biology); Dr. Catherine Grgicak (Chemistry); Dr. Sean O'Malley (Physics); Dr. Suneeta Ramaswami (Computer Science); Dr. Siqi Fu (Math)
Departmental Lab TA Coordinators (check Department webpages for contact info)	- Which lab courses or sections you'll be TAing (if assigned to a lab)	Charlene Sayers (Biology); Mary Craig (Chemistry); Corey Trout (Physics)
Departmental Secretaries (check Department webpages for contact info)	- Keys for non-CCIB space	Kelly Esterly (Physics and Computer Science); Peter Fazzino (Chemistry); Janet Caruso (Biology); Sangeetha Maheshwari (Math)
Assistant Dean III (Graduate School)	- Annual Celebration of Graduate Student Research and Creative Activities - Workshops and networking events for graduate students	Amy Liberi aliberi@camden.rutgers.edu

	- Graduate Student Advisory Council - Graduation eligibility including thesis and dissertation style review	
Coordinator of Administrative Services (Graduate School)	- Processing of graduate academic approvals/ forms, including Transient Credit Approval, Transfer Credit Approval, G Prefix Approval, Incomplete Grade Extension Forms, Re-enrollment Forms, PhD Full Time Certifications, Change of Status Forms, Program Transfer, Withdrawal Forms, and Graduation Forms - Student conference travel and research grants - Scholarship funding and TA/GA contracts	Bethany Lawton bethany.lawton@rutgers.edu
Associate Dean for Research and the Graduate School – Camden	- You are appealing a dismissal or loss of contract - You have specific suggestions for clarifying or improving the admissions/enrollment process (check with GPD first)	Dr. Michelle Meloy
College of Arts and Science Dean	- There is almost no reason for a graduate student to reach out directly. Students who have done so in the past have not received the outcome they wanted.	Dr. Howard Marchitello

Community Computing Resources

High Performance Computing

Why would I need HPC resources?

If you have a program that runs from the command line, you can submit it to a high performance computer (aka supercomputer) and it will run without using your desktop memory or computing power. You can also run many calculations at once, use a large amount of memory per calculation, or run some programs in parallel over multiple nodes so they run much more quickly than they would on a single node.

What HPC resources are available?

The Rutgers Office Of Advanced Research Computing (https://oarc.rutgers.edu/) provides several different kinds of resources. The most common resource is a supercomputer called Amarel. Anyone can submit jobs to Amarel, but you have to be part of a group that invests in Amarel to have high priority.

How can I get access?

You request access via https://oarc.rutgers.edu/access/

What does it mean to have high priority?

Higher priority users can "preempt" lower priority users. If you are preempted, your job is killed while it is running and the other user's job starts on the node you wree using. If you preempt someone else, you kill their job and start using the node.

Where will I have the highest priority?

When you submit a job, you specify the queue. As of August 2019, there are four queues you might submit to:

Queue Name	Number of Nodes (August 2019)	Relative Likelihood of Preemption	Relative Queue Time
main	~400	High	Moderate
cmain	~35	Possible but unlikely	Low
p_ccib_1	~10	CCIB users cannot be preempted	Moderate
Your PI's queue	However many your PI has purchased	You cannot be preempted	Depends on your group

How do I get support?

If you need help, you can try:

- Attending the Amarel training sessions when they are offered. You should do this even if you don't need help yet!
- Consulting the User's guide, Training Resources, and FAQ at https://rutgers-oarc.github.io/training/ There are a lot of resources here!
- Asking for help from another CCIB Amarel user.
- Asking for help from the CCIB Sysadmin, Tom Skipper ().
- Emailing the Office of Advanced Research Computing at help@oarc.rutgers.edu

Slack

What is Slack?

Slack (Searchable Log of All Conversation and Knowledge) is a communication platform for organizations. An increasing amount of rapid communication within CCIB is done over the slack site. It is the fastest way to get a response from the graduate program director.

Isn't that what email is?

Not really. Slack is much better for informal, back and forth conversations (more like texting). It has a very convenient structure for organizing these conversations and associated files (more like a forum) and allows rapid acknowledgment of messages without generating more messages (like facebook/twitter/Instagram). You can also video/audio chat and screen share. You just have to try it to see why people like it.

How do I access it?

There are several options:

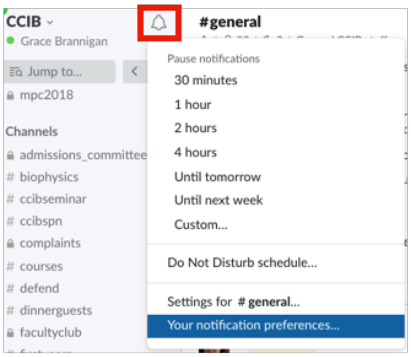
- Browser (ccib-grad.slack.com)
- Phone "Slack" App (android or iphone) and join the ccib-grad slack site.
- Desktop "Slack" App (on a desktop/laptop)

If you don't have an account, email grace.brannigan@rutgers.edu and I will send you an invitation.

I am getting way too many notifications (or far too few).

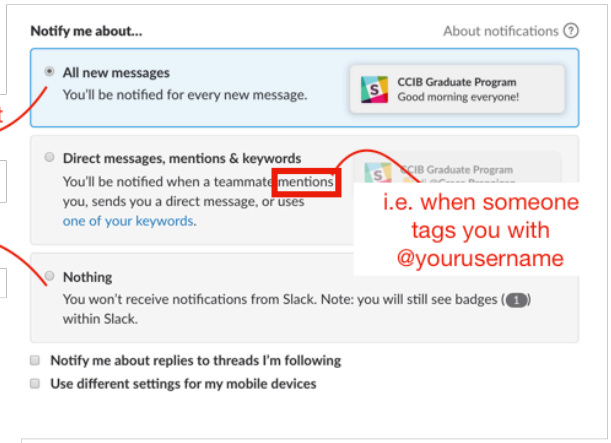
Access slack using one of the options above, and then follow the instructions below.

1) In the upper left corner, select the bell



2) In the menu that pops up, choose "your notification preferences"

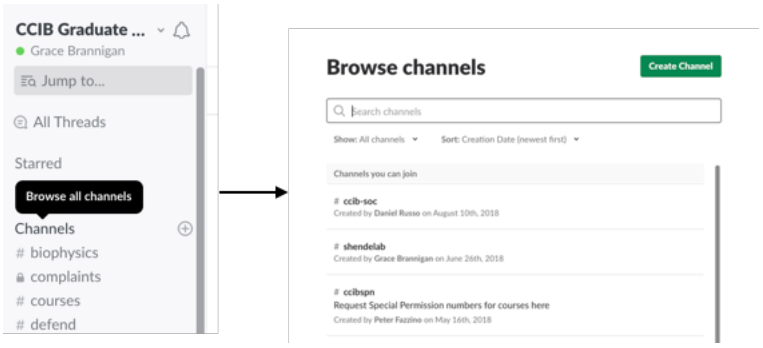
3) Read the options and choose the ones you want



4) Make sure to scroll down - there are many more useful options on this screen for customization!

How can I find other channels?

Hover over "Channels" until "Browse all channels" pops up, as shown below:



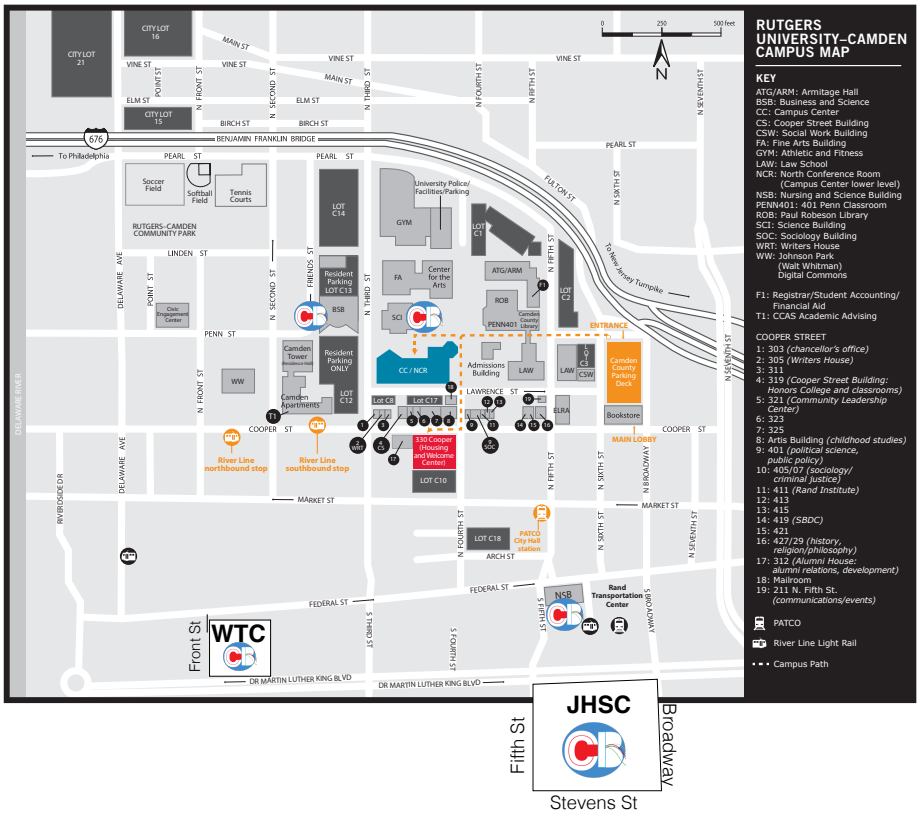
How can I make my own channel/acknowledge messages/reply in a thread/video or audio call/notify a user group?

You can search online for any of these questions, but if you want some more targeted tips for these particular common tasks, join the #guides_from_gb channel and select the "slack_info.pdf" pdf file. You can click on it directly to view it (or download it).

Locations

Where IS the CCIB?

CCIB activities and labs are spread out across several buildings on campus. Almost all of them have the word "Science" in them, but otherwise it can be hard to guess what faculty should be in each building. We are excited that in Fall 2019 a new building (the Joint Health Sciences Center) will finally gather most CCIB researchers under one roof. You may still have classes in other buildings or need to visit some of the faculty who will not move to the JHSC.



The five CCIB buildings, marked by the logo on the map above, are:

1) Business and Science Building (BSB): Contains the Computer Science and Math departments, as well as most other CCIB computational labs and faculty offices on the

third and fourth floor. Several research groups (Brannigan, Lamoureux, Piccoli, Zhu) will move to JHSC in Fall 2019. High performance computing hardware (Amarel) is on the first floor.

2) Science Building (SCI): Contains many members of the Biology and Chemistry departments, as well as CCIB staff. Several faculty in this building (Fu, Shain, Fried) as well as CCIB and Biology staff will move to JHSC in Fall 2019.

3) Camden Nursing and Science Building (NSB): Contains many teaching laboratories, as well as experimental faculty in the Physics Department (second floor).

4) Waterfront Technology Center (WTC): This building is not on most campus maps but is added to the map above (200 Federal St). Contains many members of the Biology department (fifth floor), all of whom will move to JHSC in Fall 2019. At that point, CCIB and Rutgers-Camden will no longer use the WTC.

5) Joint Health Sciences Center (JHSC): This new state-of-the-art building will open in Fall 2019 and will serve as the main building for CCIB. The building occupancy is split between researchers from CCIB and from Rowan University. It is not yet on campus maps, but is on the corner of Broadway and MLK but is added to the map above.