

CCIB NRT Codes for Life (C4L) Trainee Track Handbook

Codes for Life Personnel

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Link to C4L Personnel: <https://c4l.camden.rutgers.edu/c4l-personnel/>

Program Overview

The Codes for Life (C4L) Trainee Track is part of the National Science Foundation's Research Traineeship (NRT) program and is housed within the Center for Computational and Integrative Biology (CCIB) at Rutgers-Camden. This interdisciplinary initiative prepares graduate students to lead research efforts at the intersection of genomics, proteomics, software development, and artificial intelligence.

Although C4L's research themes center on computational approaches in genomics and proteomics, participation is not limited to students in those areas. Students from a wide range of STEM disciplines are welcome, and many training opportunities are open to all CCIB and Rutgers-Camden STEM graduate students.

Joining the C4L track gives you access to a supportive and forward-thinking academic community. You may gain valuable skills, connect with mentors, and help shape a new model of graduate training.

Why Join the C4L Trainee Track?

- Engage in interdisciplinary training that builds computational and collaborative skills
- Strengthen your coding and data analysis expertise
- Explore professional software development standards
- Connect with industry mentors and learn about career pathways
- If eligible, receive NSF NRT Fellowship support for one to two years of funding without TA or GA responsibilities
- Add a nationally recognized credential to your CV that demonstrates your interdisciplinary training

Eligibility and Funding

The C4L Trainee Track is open to all graduate students in STEM fields at Rutgers–Camden, including both Ph.D. and M.S. students across departments and programs.

We welcome students from a wide range of research backgrounds. If you are interested in developing stronger computational skills, engaging in interdisciplinary research, and participating in a supportive training community, the C4L track may be a good fit.

Who Can Join the Track?

- All STEM graduate students at Rutgers–Camden may apply to the C4L Trainee Track

What are the benefits of being in the C4L track

- Students in the track may participate in coursework, seminars, workshops, mentoring, and professional development activities

Apply to the C4L Trainee Track here: <https://forms.office.com/r/JfsYuxhqSa>

Who May Be Eligible for Fellowship Funding?

- Ph.D. students in the C4L track who are U.S. citizens or permanent residents may be considered for NSF-funded NRT Fellowships
- M.S. students and international Ph.D. students are not eligible for NRT Fellowship funding but are welcome to fully participate in the C4L Trainee Track

If you apply to the C4L Trainee Track, your application will be reviewed by the program team. If you are already working in a lab, your PI will be included in the conversation to align expectations. If you have not yet joined a lab, that is fine. Once you do, your PI will be contacted to discuss how the C4L track complements your training.

Additional Summer Support

The C4L track allows for additional summer funding. PIs who have students in the C4L track may request additional summer funding for their students, even if those students are not NRT Fellows. This support may be available for both Ph.D. and M.S. students and does not depend on citizenship status. Speak with your PI for more information about summer funding options.

Track Requirements

	Coursework Clusters*	Semesters of C4L Seminar	Industry Mentorship	Workshops per Semester	IDP Completed	Student Consultant
Post-qualifying PhD Fellow	2 courses (from 2 different clusters, 3 recommended)	5 (2 before qualification), each semester during fellowship	Strongly recommended	2	Annually	Expectation is that a Fellow would be a consultant 1 time per year (more details in Fellows FAQ section)
PhD Non-fellow	2 courses (from 2 different clusters, 3 recommended)	5 total (2 before qualification)	Optional	2	Annually	Encouraged, not required
MS	2 courses (from 2 different clusters)	2 before graduation	Not required; consult with C4L team if interested	2	Annually	Encourage, not required

*See “Coursework Clusters” table below for options.

Coursework Clusters

Students must complete at least one course from two different clusters (see examples below). Auditing: Post-qualifying students may audit a course to count toward this requirement. To arrange an audit, contact Sarah, Grace, and the course instructor. The C4L Program Coordinator will check with the faculty member at the end of the semester to confirm that you audited the course.

Select at least one course from two different clusters.

Cluster	Example Courses
Proteins	Protein Structure and Function (56:115:522), Molecular Biophysics (56:121:560), Cell Membranes (56:121:562)
Genomes	Genome Informatics (56:121:552), Evolutionary Genetics
Artificial Intelligence	Artificial Intelligence (56:198:514), Machine Learning (56:198:554)
Software Development	Data Structures and Algorithms (56:198:501), Software Engineering (50:198:423)

All listed courses count toward the CCIB degree. Students in other STEM programs should confirm with their graduate director that the courses apply toward their degree.

Q: How do I request a course waiver?

Waivers of some requirements are an option in specific situations. Please email or Slack the C4L Program Coordinator (Sarah Johnson) and Dr. Grace Brannigan (PI of the NRT grant) and include your PI. Be ready to provide justification and relevant documentation.

Individual Development Plan (IDP)

All trainees need to complete an Individual Development Plan (IDP) using myIDP and update it annually. Your IDP:

- Helps clarify your goals, interests, and needed skills
- Informs your choices for training, mentorship, and professional development
- Stimulates conversations (and commitments!) from your faculty advisor

This is a flexible tool meant to support your professional growth. C4L will host a workshop or session of C4L Seminar annually to introduce the IDP to new users and facilitate review and update for continuing users. Timelines for completion will be announced in the workshop.

Additional Program Components

Evaluation and Feedback

As part of ongoing program improvement, C4L collects survey feedback and occasionally invites students to participate in focus groups. These efforts are optional and help guide future programming.

Workshops and Technical Training

C4L workshops provide hands-on training in interdisciplinary and technical skills such as:

- Programming in Python and R
- Version control with GitHub
- Use of tools like AlphaFold and Amarel
- Scientific communication
- Introductory and applied machine learning

Workshop topics and schedules vary each semester. The C4L team shares a roadmap and may offer beginner and advanced versions of select sessions. Pre-workshop setup instructions are provided when needed. C4L is considering ways to improve post-workshop support and asynchronous access. Students are encouraged to suggest workshop topics through the post workshop feedback surveys or via the C4L general Slack channel. Workshops listed on the #workshops-and-training channel are all eligible to count towards your track requirements.

If you would like to host a workshop you can propose one here:

<https://forms.office.com/r/EniLcKXJcn>

Students can suggest an external workshop that can count towards your C4L workshop requirements; please email or Slack the C4L Program Coordinator and Grace Brannigan.

List of Codes for Life workshops is found here: <https://c4l.camden.rutgers.edu/codes-for-life-workshops/>

Seminar Participation and Expectations

The Codes for Life seminar series (56:121:605) includes interdisciplinary presentations, peer feedback, and professional development activities. Examples include the FAIR data project, group coding challenges, and guest speaker sessions.

- Pre-qualifying Ph.D. and M.S. students must register for the class
- Post-qualifying Ph.D. students are encouraged to attend regularly, preferably in person
- NRT Fellows are expected to attend in person

Assignments are generally structured within a single semester. Expectations are communicated at the beginning of each term. C4L is considering options to support asynchronous access.

Q: What is a Student Consultant?

A Student Consultant is a trainee who provides assistance to the C4L workshop host. Clear expectations are shared in advance, and the role continues to evolve based on student feedback. NRT Fellows are expected to serve as a Student Consultant in at least one workshop per year as part of their fellowship requirements, but all students are welcome to volunteer. If your PI is hosting a workshop, you may serve as the consultant; however, we encourage consultants to work with instructors outside their own lab, since they are often better positioned to identify areas of confusion for students who are new to the material.

Industry Mentorship

Q: What is the industry mentorship?

The industry mentorship connects C4L trainees with professionals working in companies, government agencies, or non-profit organizations. Mentors share career advice, workplace insights, and suggestions for applying research skills outside academia.

Q: What are the goals of the mentorship?

- Give students a clear picture of different career paths
- Help students expand their professional contacts
- Offer guidance on how to use academic skills in other settings
- Support career planning and job applications
- Guidance on improving coding standards

Q: How do I get an industry mentor?

If you are a post-qualifying PhD student, you can request a mentor by completing the

Industry Mentorship Intake Form: <https://forms.office.com/r/9Xf2Vepc82>

Completing the form lets us know that you are interested in a mentorship so we can begin that process with you.

Q: Who gets a mentor and when?

Only post-qualifying PhD students are matched with industry mentors. This typically happens in year 4 or 5 of your PhD. Matches are usually made once or twice a year. Post-qualifying PhD students can apply at any time during their training for a mentorship. It is advised that you speak with your PI ahead of time about this.

Fellows FAQ

Q: What does it mean to be a C4L Fellow?

C4L Fellows are trainees who receive funding through the NSF NRT grant. Fellows are not considered Rutgers employees and have no teaching responsibilities.

Q: How is being a C4L Fellow different from being a non-fellow?

All C4L students—fellows and non-fellows—participate in the same program activities. The main difference is that Fellows receive financial support from the NRT program and therefore have some additional expectations.

Additional expectations for C4L Fellows:

- Student Consultant: Serve once per year as a student consultant for a workshop. Fellows may consult for a workshop in their own lab and can also participate as attendees. If no workshop aligns with your expertise, please contact the C4L Program Coordinator and Grace Brannigan to discuss alternatives.
- Program Representation: Fellows may be invited to participate in the annual External Advisory Board meeting each August, assist with recruitment activities, or help represent the C4L program to prospective students. Fellows are expected to contribute when possible.
- C4L Seminar: Fellows are expected to attend C4L seminar in person during each semester of their fellowship.
- Industry Mentorship: While still optional, Fellows are strongly encouraged to participate in an industry mentorship.

Overall, Fellows are expected to act as positive representatives of the C4L program while balancing these responsibilities with their research and academic commitments. We recognize that conflicts may arise, and we will work with Fellows to accommodate individual circumstances.

Q: What will I gain from being a C4L Fellow?

- Stipend, tuition, certain fees, and student health insurance premium covered by the NRT program
- Opportunities to serve as a student consultant (unpaid but valuable)
- Direct support to focus on research without teaching obligations
- Access to a multidisciplinary training community
- You will be added to the #fellows channel in Slack which has additional resources for fellows in CCIB

Q: How will I receive my fellowship payments?

You will get a few paper checks per year that you pick up from the program coordinator in JHSC; the total amount will be in your award letter. New fellows transitioning from employee status may receive their first payment mid-late October. No taxes are withheld; save 25-30% for taxes.

Q: Does my fellowship cover tuition and fees?

Yes. The program pays tuition and certain mandatory fees directly. There can be delays; disregard automated calls from Rutgers as the Graduate School will pay the bill.

Q: Am I required to have health insurance?

Yes. You will need to enroll in Rutgers student health insurance, which is different from the plan you may have had as a TA or GA (but the cost will be fully covered by the fellowship). It is important to enroll in the student health insurance plan as soon as it opens for the new

year. The Graduate School needs extra steps to pay your term bill, which includes your student health insurance. If you do not enroll, that bill will not be added to your term bill. Please enroll as soon as possible and do not wait until the deadline, which is usually at the end of September.

Q: Will the NRT pay for dental and/or vision insurance?

Yes. You have two options:

1. You can purchase through Rutgers (Student Health Insurance Info)
2. You can purchase external insurance and get reimbursed, up to an amount equivalent to the cost of Rutgers Student Insurance.

Q: Why would I want to get my own?

Fellows have reported that the student vision plan is strong but that the student dental plan can be difficult for finding care. You can combine a private dental plan with the student vision plan if you prefer.

Q: Ok, I want my own dental or vision insurance. What do I do?

At the start of the academic year, you will let the Program Coordinator know what plan you are enrolled in and how much it costs; documentation or proof of coverage will be requested. The Program Coordinator will work with the Graduate School to issue you a scholarship refund after the add/drop date and once your term bill is paid.

Q: How do travel and other reimbursements work for Fellows?

Fellows do not have Concur access. To be reimbursed, follow these guidelines:

1. Before you book: Email Sarah Johnson as early as possible with your trip purpose, dates, destination, and anticipated costs. Pre-approval is required.
2. Airfare and rail: Flights and train tickets must be booked through the university. If you purchase these on your own, they are typically not reimbursable—please do not book your own airfare or rail tickets.
3. Paying upfront: Costs such as hotels and conference registration are usually paid out-of-pocket by the traveler and reimbursed afterward. If this is a hardship, contact Sarah Johnson as soon as you know you will need to travel; sometimes alternate arrangements can be made with a university credit card. (This option is not available for last-minute travel.)
4. During travel: Save itemized receipts and proof of payment (e.g., credit card statements or receipts for cash payments).
5. After travel: Prepare an expense list (dates, items, amounts, description, funding source—you may need to ask your PI for this). Submit your files to Sarah Johnson via email or Slack. All reimbursements must comply with Rutgers and sponsor rules; incomplete documentation can delay processing. Fellows should submit reimbursement materials to the C4L Program Coordinator within 2 weeks of travel or incurring the expense. If you need an extension, contact Sarah Johnson so we can avoid delays that could push expenses beyond the 60-day window.

Q: Are taxes withheld from the NRT stipend?

No. Taxes are not withheld from NRT stipends because fellows are not considered employees of Rutgers for this funding. You are responsible for reporting the stipend as income when you file your annual tax return.

Q: How should I plan for taxes on my stipend?

Since taxes are not withheld, you will likely owe federal (and possibly state) income taxes at the end of the year. Fellows are strongly encouraged to set aside part of their stipend each month to cover this. The amount you should save depends on your total income, state of residence, and personal circumstances.

Q: How much should I set aside?

Rutgers cannot provide individual tax advice. As a very general rule of thumb, some students find it helpful to save 15–20% of their stipend to cover federal and state taxes, but your actual liability may be higher or lower. For personalized guidance, we recommend consulting the IRS website (<https://www.irs.gov>) or speaking with a qualified tax professional.

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MS	2 courses from 2 clusters	2 before graduation	Not required (may consult with C4L team)	2	Annually	Encourag ed

Coursework Clusters

Cluster	Example Courses
Proteins	Protein Structure and Function, Molecular Biophysics, Cell Membranes
Genomes	Genome Informatics, Evolutionary Genetics
Artificial Intelligence	Artificial Intelligence, Machine Learning
Software Development	Data Structures and Algorithms, Software Engineering