Stony Brook University

PhD Program Orientation
Fall 2025

Erez Zadok: Graduate Program Director
Michalis Polychronakis: Graduate Program Advisors
Computer Science Department

Goal of the PhD program

To Turn Students into Scholars

… who are able to perform high-quality original research

… with preparation in the broad discipline of Computer Science

… and understand the impact of their and others' work

… on their specialized area as well as Science and Society at large

This is usually achieved in multiple steps spread over 5--6 years (more or less)

- We will review these steps and requirements now

Contents

- **Academic Progress and Standing**

- Support

- Registration and Credits

- Responsible Conduct

- In Conclusion…

CS Department

- *Administration*
  - Samir Das (Chair)
  - Amy Saas (Assistant to the Chair)
- *Graduate Program*
  - Erez Zadok (Graduate Program Director–incoming)
  - Michalis Polychronakis (Graduate Academic Advisors, MS Program)
  - Kristen Kalb-DellaRatta(Graduate Program Manager)
  - Kenna O'Leary (Graduate Program Coordinator)
    - **gradadvising@cs.stonybrook.edu**
- *Graduate Admissions*
  - Himanshu Gupta (Grad. Admissions Director)
  - Allison Katz (Admissions Coordinators)
- *Other Administration*
  - Christine Cesaria (Fellowships, compliance, etc.)
  - Susan Cuiffo (Research Payroll)
  - Emily Brosnan (Reimbursements)

Other Important Units

- **Graduate School**
  - Policy making for all graduate programs in the university

- **Registrar and Bursar's Office**
  - Enrollment, billing and payment

- **Visa and Immigration Services (VIS)**

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Graduate Handbook and FAQ

- Describes everything you need know about MS/PhD program in CS.

- Access from the departmental web page. Go to Students→Graduate.

- Read the latest version.

Read the handbook. Keep a copy under your pillow.

Requirements

Fall 2025 Handbook describes your PhD progress and graduation requirements.

- This is your default set of requirements.
  - At the time of graduation, you may choose a the requirements from a more recent edition of the Handbook (if anything has changed).
  - You cannot mix and match requirements from different years.
  - Generally there may be minor tweaks from year to year, but major changes are infrequent.

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PhD Program Structure

- Graduate-Level Courses
  - Timing: mainly in the first 2 years

- Research under supervision of a faculty advisor
  - Timing: throughout the program, but *starting no later than at the end of the 2nd semester*
  - Begin with critical reading of a research problem
  - Develop into independent and original research

- Teaching (TA responsibilities)
  - Timing: mainly in the first year

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Steps and Milestones

1. **Qualifier Courses**
   - Time limit: By the end of 4 semesters
   - *Strong recommendation: Complete in 3 semesters*

2. **Research Proficiency Exam (RPE)**
   - Time Limit: By the end of 4 semesters
   - Earlier completion for research-ready students

3. **Preliminary Thesis Proposal (Prelim)**
   - Complete by end of year 4

4. **Thesis Defense**
   - Complete by end of year 5

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Remember Your Goal
Do scholarly research to complete your PhD Degree

- Focusing **<u>only</u>** on how to complete Qualifiers as quickly and easily as possible is a **<u>bad idea</u>**

- Focusing on research to the detriment of coursework is not recommended either

- In your first year, you should be **judicious** with courses so that they:

1. help you identify and begin work with a research advisor
2. give you background in your expected area of research
3. help you complete Qualifier requirements

Shortcuts don't help!

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1. Qualifiers

Complete **5 Graduate Courses** with grade **A- or better**, with following restrictions:

- At least 3 courses, covering all 3 breadth areas:
  - Theory, Systems, IIS.
- The 4th and 5th courses may be any regularly-scheduled graduate lecture course, with a few restrictions; see Handbook for details.

Required: Complete in 4 semesters.

Enforced: Complete these in 3 semesters unless research progress is extraordinary; research-ready students who finish their RPE early may take 4 semesters.

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Sample Plan for First 2 Years

1st semester: 2 quals completed, narrow down dissertation advisor

- If you already have a dissertation advisor, follow their advice regarding your schedule.
- Otherwise, enroll in classes and seminars taught by prospective advisors; actively participate in research with prospective advisors.

1st summer: research with dissertation advisor

(Don't disappear in summer!)

2nd semester: 2 additional quals completed, have dissertation advisor

3rd semester: finish remaining quals, research with advisor

2nd summer: continue research, prefer focus on research over internship

4th semester: take any other course you want/need, complete research for RPE

Many students finish quals requirements in 1st year.

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Qualifier Areas

Theory
CSE 512: Machine Learning
CSE 526: Principles of Prog. Lang.
CSE 540: Theory of Computation
CSE 541: Logic in Computer Science
CSE 547: Discrete Mathematics
CSE 548: Analysis of Algorithms
CSE 549: Computational Biology

Systems
CSE 502: Computer Architecture
CSE 504: Compiler Design
CSE 506: Operating Systems
CSE 508: Network Security
CSE 509: Computer System Security
CSE 532: Database Systems
CSE 534: Fund. of Computer Networks
CSE 535: Distributed Systems

Intelligent Info. Systems
CSE 505: Computing with Logic
CSE 519: Data Science Fundamentals
CSE 525: Robotics
CSE 527: Intro. to Computer Vision
CSE 528: Computer Graphics
CSE 537: Artificial Intelligence
CSE 538: Natural Language Processing
CSE 564: Visualization

[IIS = Information and Intelligent Systems]

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Academic Advising

Every incoming PhD student has been assigned an "**Academic Advisor**".

- The academic advisor will help you plan your qualifier and other courses during your first year here.

- They will also guide you to find and begin research with your "Dissertation Advisor".

- Academic advisor may not necessarily be in your research area, but will still provide invaluable advice to guide your progress.

- If not done already: email your academic advisor asap and set up an appointment to meet with them.

2. RPE
Research Proficiency Exam

Designed to test basic ability to critically read papers, synthesize information, understand problems, and formalize arguments.

- When working with an advisor, acquire significant familiarity with one research problem area

- Survey important papers in a narrow area; synthesize info. on their contribution

- Write a formal RPE report

- Make an hour-long presentation before an RPE committee* (open to all)

- Expected completion: by the end of Year 2

* See Handbook on rules for committee composition

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3. Prelim

Thesis proposal

- Sometimes called by its old name "Prelim Exam", this is a proposal of your thesis to a faculty committee

- Generally done when the thesis problem is clear

- The proposal is a detailed report on what has been done so far, and
  - lists what will be completed before the thesis is finished.

- There is a formal proposal presentation to the committee* (others may attend by invitation)

- Expected completion: end of year 4 / early year 5.

* See Handbook on rules for committee composition

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4. Defense

- Complete and submit dissertation to a committee (with at least one external member)

- Make a formal presentation to the committee* (open to all)

- Upon successful completion, celebrate (and answer questions on where you are headed next).

*See Handbook on rules for committee composition

Good Standing

- Academic progress is evaluated by entire faculty
  - **All-hands faculty meetings held twice a year**
  - Progress in qualifier and other courses, GPA
  - *Advisor report on research progress*
  - Student's self-report on research progress
  - TA evaluations (by supervising faculty)
    - Poor performance may lead to immediate loss of good standing

- Graduate School criteria (common to all graduate programs):
  - GPA ≥ 3.0, no incompletes ("I" grades)

- Loss of good standing may lead to:
  - Loss of financial support, tuition scholarship
  - Dismissal from program

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- **Support**

- Registration and Credits

- Responsible Conduct

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Financial Support

- All **PhD** TA/RA positions come with tuition & fee scholarship
- Assistantships are contingent on maintaining full-time status and good academic standing
- TA offers cover Fall and Spring semesters
- Summer RA supplement covers rest of the year (if a faculty advisor is willing to provide support)
- TA-ships for Fall/Spring semesters are handled centrally by the graduate program
- Limited number of TA-ships may be available over the Summer, but are completely managed by individual instructors
- Domestic students who are not NY residents should become NY residents in their first year to remain eligible for tuition waivers

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Teaching Assistantship

- 15-20 hours per week, assisting a faculty member in instruction (holding labs, teaching recitations, grading, etc.)

- TAs <u>may</u> register for Teaching Practicum (CSE 698) for credit

- CSE 698 satisfies grad school teaching requirement

- All **new** TAs will go through two additional *mandatory* training sessions organized by the department, held in the first few weeks of the semester.

- TA work is a part of a student's portfolio that is reviewed during PhD Student Evaluation meetings

- Take TA-ship seriously: **Poor TA performance will lead immediately to "Not in Good Standing (NGS)"**

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Research Assistantship

- 15-20 hours per week, assisting a faculty member, usually the thesis advisor, in research

- Paid by individual faculty from their research grants

- Usually, students become RAs in their first **summer**, and continue as RAs until graduation

Internships

Note: internship is <u>not</u> a requirement

- You can get credit for internships (CSE 696/697)

  International students can do such internships using Curricular Practical Training (CPT).

- CPT eligibility:
  - To be eligible for CPT, you must have been at Stony Brook for at least 2 regular semesters, be in good standing, and not have pending ("I") grades.
  - **CPTs are generally approved for summer only.**
  - CPTs for Fall/Spring needs to be directly related to your research.

MS Degree

- PhD students can get an MS "on the way"
- 1 year **after** advancing to candidacy (G5)
- Needs approval of your dissertation advisor
- Research credits and RPE will be used in lieu of MS thesis (up to 9 credits)
- Other 22 credits for the MS can come from lecture courses and seminars
- PhD students <u>leaving the program</u> for MS need to satisfy <u>all</u> MS requirements
- Note: PhD students cannot register for "MS-Only Courses":
  - CSE 522, 523, 524, 599

Healthy Mind and Body

- Keep good habits: work, sleep, diet, exercise
- Use excellent health services on campus
    - Covered for you by your TA/RA/GA
    - World class hospital, many clinics and specialities
- Counseling and Psychological Services (CAPS)
    - Free and confidential
- If needed, consider:
    - Leave of Absence
    - Medical Underload
- Use these resources as soon as you feel you need it!
- Don't wait until it becomes a big problem, affecting academics!

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Graduate Credits

PhD students must accumulate at least **20 credits** from *non-generic* CS graduate courses.

- Credits for generic courses such as CSE 593, 600, 698, 699 *do not count*.

- All lecture courses, special and advanced topic courses and seminars (except CSE 600) are included in this count.

- Note that qualifier courses alone contribute at least 15 credits.

CSE 600

Mandatory seminar: "Research in Modern Computer Science"

- Typically on Fridays, 2:30-4:00 pm

- Faculty present their current research
  - Occasionally we have visitors as well

- Gives you a broad overview of current research in CS

- **All PhD students must enroll in <u>2 semesters</u> of CSE 600**
  - You can register for 0/1 credit
  - The requirement is 2 semesters with "S" grades

- S/U grading based on attendance (>70%)

CSE 698

Teaching Practicum

- All PhD students must enroll in at least 1 <u>semester</u> of CSE 698

- 0-3 credits of registration in any semester
  - Note: requirement is a passing grade in 1 semester, not number of credits.

- Common use: Register in 698 along with your TA work

- All TAs will go through two additional *mandatory* training sessions, organized by the department, and held in the first few weeks of the semester.

Academic Level and 'Full Time'

- **Level:**
  - G3 when admitted with a BS degree
  - G4 after completion of 24 graduate credits (anywhere)
  - G5 after completing all requirements except dissertation

- **To be considered full-time**
  - *All grad students must be registered for at <u>least 9 graduate credits</u>*

- **The following students must be full-time:**
  - International students on visa
  - Students getting assistantships
  - Students in University Housing

- **Tuition Scholarship:**
  - G3: 12 credits (but you can register for up to 18 "for free")
  - G4/G5: 9 credits (12-18 if you need OAE classes, email Amy)

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Find Your Academic Level

On SOLAR:

Student Records & Registration

    —> Academic Planning

      —> My Planner

        —> My Academics

Registration for G3

- Supported G3 students
  - Must register for at least 9 credits
  - Get tuition scholarship for up to 18 credits
- [Well-prepared G3 students](#) are recommended to take **12** credits:
  - 3 qualifier courses (9 credits)
  - 1 credit of CSE 600
  - 1 credit of CSE 698
  - 1-credit seminar (not 600) or independent study (593)
  - To this, add OAE courses as needed.
- If unsure of prior preparation, reduce load to 9 credits (take only 2 quals courses)
- Speak to your academic advisor.
  - You may reduce qualifier load if you want to get an early start into research, or need further CS preparation.

Registration for G4 with OAE reqs.

G4 students

- Must register for at least 9 credits
- If supported, get tuition scholarship for **9 credits**
- **BUT**: if you have OAE requirements, your scholarship can be increased to cover 12-18 credits
  - *Send email to <u>gradadvising@cs</u> if this applies to you and you've not already spoken to her.*

Such G4 students are recommended to follow the same recipe as G3 (previous slide)

- Speak to your academic advisor.

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Registration for Other G4s

G4 students

- Must register for at least 9 credits
- If supported, but **do not** have OAE requirements, get tuition scholarship **only for 9 credits**

Such G4 students are recommended to take **exactly 9** credits:

- 3 qualifier courses (9 credits)
- Register for 0 credits of CSE 600
- Register for 0 credits of CSE 698
- Audit a seminar (other than 600) in your area of choice

If unsure of prior preparation, take 2 quals courses + 1 cr. each of 600, 698, and another seminar

- Speak to your academic advisor

Registration for G5

G5 stands for "Advanced to Candidacy"

- You get to G5 after you complete your qualifiers and RPE, and complete all requirements except dissertation.
- When you get to G5, you become a "PhD Candidate"
- 9 credits of tuition scholarship
  - even if the student receives no other support, as long as they were fully supported prior to advancement
- G5 students may register a single 3-credit course, seminars, internship (CSE 696/697); or dissertation research (CSE 699/700/701).

Registration in non-CS Courses

- Only CSE courses count towards graduation

  - See detailed piazza post

- If you have a tuition scholarship, only CSE and OAE courses will be covered under that scholarship, by default.

- If you want to take a non-CSE course, you will need <u>explicit</u> permission from your advisor as well as the Grad Program Director.

Important Dates

Be familiar with graduate calendar

(www.stonybrook.edu → Academics → Academic Calendars)

- **Classes start on Monday**
- **First week:** add, drop, swap all you want
- **First Friday (5 days)** – drop deadline w/o tuition penalty
- **Second Friday (12 days), 4pm** – Registration changes on SOLAR (drops may incur tuition penalty)
- **Afterwards** – swap by petition only (hard)

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Full Classes

PhD students get priority placement in classes

If you want to get into an otherwise full class, email **gradadvising@cs.stonybrook.edu** with your ID number and the class you want to get into.

NOTE: permissions can be issued only if there is physical space in the classroom.

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Responsible Conduct

- Ethical Behavior

- Professional Conduct

- Authorship and plagiarism

- Safety

Ethical Behavior

- Treat others (as well as their work and products) with respect
- Treat everyone over who you have some power (e.g., TA/student) fairly
- Ensure that the results of your work are a reliable statement of its outcomes.
  - Results in your papers must be true to the best of your knowledge
  - No misrepresentations, obfuscations, "wishful thinking"

Academic Dishonesty

- Do <u>your own work</u> for all exams and assigned class work.
- Do not copy from anywhere, discuss with anybody, solve problems in group.
  - Unless specifically allowed by an explicit class policy.
  - Check with instructor on what is allowed if looking for solutions (e.g., github). If allowed, cite sources where you got help.
- Guard your work so that others cannot copy.
- Be very careful with Generative AI tools!

Serious consequences:

- Loss of grade: Many profs will give 'F' in the course.
- Possible dismissal from program.

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Ethical Violations: Procedures

Violations reported to Program Director.

- Accusations and penalties for violations may be appealed to special graduate committee
  - Formal proceedings, judged by a committee of 2 graduate students and 2 faculty
  - Recommendations sent to Program Director
- For serious violations, finding of guilt may lead to dismissal from program.
- Minor violations are recorded in student's file.
  - These records are destroyed at graduation time if there are no other violations.
  - Second violation is grounds for dismissal from the program.

Professional Conduct

- Complete high-quality work in a timely manner

- Maintain a safe and welcoming work environment

- Live up to your promises
  - So make promises with care
  - E.g., when you accept a job or internship offer, you cannot continue to interview or accept another offer!

Professional Misconduct

- <u>Accepting</u> an internship/job offer (via campus career center or otherwise), and then turning it down later
  - Reflects poorly on you as well as the department
  - Employers may not come for campus interviews for future students.
- <u>Accepting</u> an RA-ship from one professor, and reneging later
  - Professors work often do collaborative work, and do not want to "poach" students from one another.
  - If you are unsure what to do with one RA-ship offer, be open about it. Come and talk to us!
- False representation in resume for jobs/internships.
  - Serious consequences on your graduate study. Possibilities exist for retraction of degree even <u>after graduation</u>.

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Sexual Misconduct

- Sexual assault is a serious **crime**

- Sexual harassment (unwanted advances, hostile work environment,...) are processed seriously
  - Faculty have "mandatory reporting responsibilities"
  - Office of Student Conduct and Community Standards, Title IX offices will investigate and levy significant penalties.

- Micro-aggressions (stereotyping, disrespect, interruptions during meetings/conversations) create an unwelcome and unproductive environment.

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Authorship and Plagiarism

- Your work must be yours!

- Don't put your name on a paper that you did not contribute to

- Don't put your friend's name on your paper just to give him/her a boost

- Cite any results that you quote from elsewhere

- Give credit where credit is due

Research Misconduct

- **Plagiarism**
  - Example: copy from somebody else's paper and use it as part/whole of your project report, thesis.

- **Falsification**
  - *Fabrication*: Make up data, results.
  - *Manipulation*: Manipulate an experiment to hide actual performance and to show what you want.
  - *Obfuscation*: Hide critical facts, but reveal some others.

- **Serious consequences on your graduate study. Degree may be retracted even <u>after graduation</u>.**

- If you feel pressured, talk to advisor or graduate program staff.

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Safety

"First, do no harm"

- Take steps to prevent yourself and others from getting hurt from your work.

- Example:
  - Care of data from medical records

RCRS
Responsible Conduct in Research & Scholarship

- Federal funding agencies require every researcher to undergo training and earn RCRS credits.
- Such training is especially critical when handling sensitive data (human subjects, health and social media data)
  - No matter whether the research is federally funded or not.
- University is ensuring that every research-funded graduate student is appropriately trained.
  - We have set up procedures within our department to have every graduate student trained.
  - RCRS will become a part of "Good Standing" requirement.

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PhD Program

Program's objective is to prepare you for a successful research career.

The program provides a framework for a student to

- Obtain *breadth* in CS   [Qualifiers]

- Develop skills to identify significant research topics [RPE]

- Acquire *depth* of understanding in a chosen area [Prelim]

- Gain ability to perform and evaluate original research [Dissertation & Defense]

The program's structure is designed to evaluate progress towards these goals.

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PhD as a Transformer
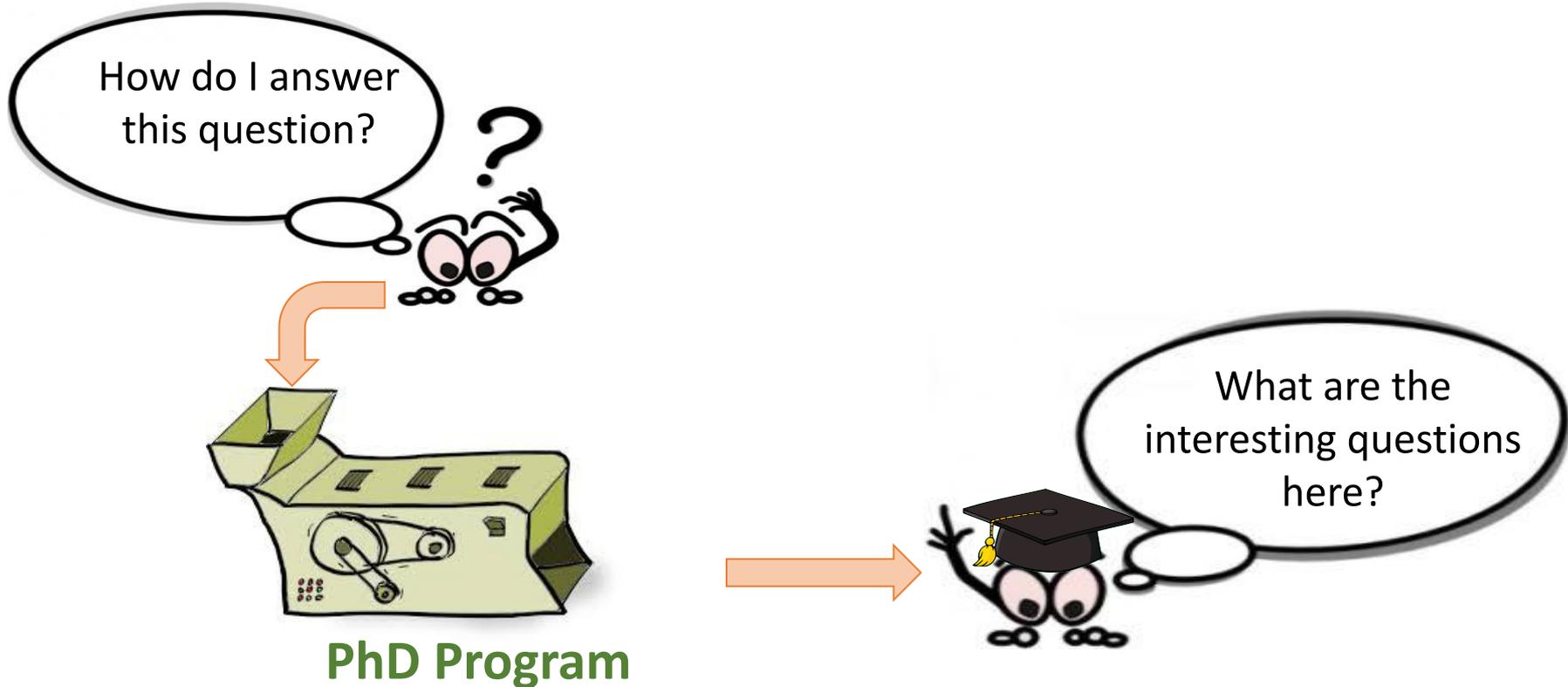
Next Steps

- **Very important:**
  - Get departmental email id (xxx@cs.stonybrook.edu)
  - … which is on grads@cs.stonybrook.edu email list.
  - Important messages sent to these addresses. No excuse for not reading them.
  - IT questions: send to rt@cs.stonybrook.edu

- Review Graduate Handbook and FAQs.

- Be familiar with registration calendar.

- Ensure access to GRAD forum on Piazza:

  `piazza.com/stonybrook/spring2018/grad/home`

  Send email to gradadvising@cs.stonybrook.edu for access

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Questions?

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