

An Afternoon on Math & Stat Grad School



Part I: Department Info Session 3:30-4:15

Part II: Alum Panel Discussion 4:30-5:30

Plan for the afternoon:

Part I: Department Info Session

1. Overview of grad school + the application process
2. Tips for Success from Profs Chen and Talvacchia
3. “Flavors” of programs

Join us again from 4:30-5:30 for Part II: A Panel Discussion with Alum:

Maggie Regan'14, PhD

Becky Tang '18

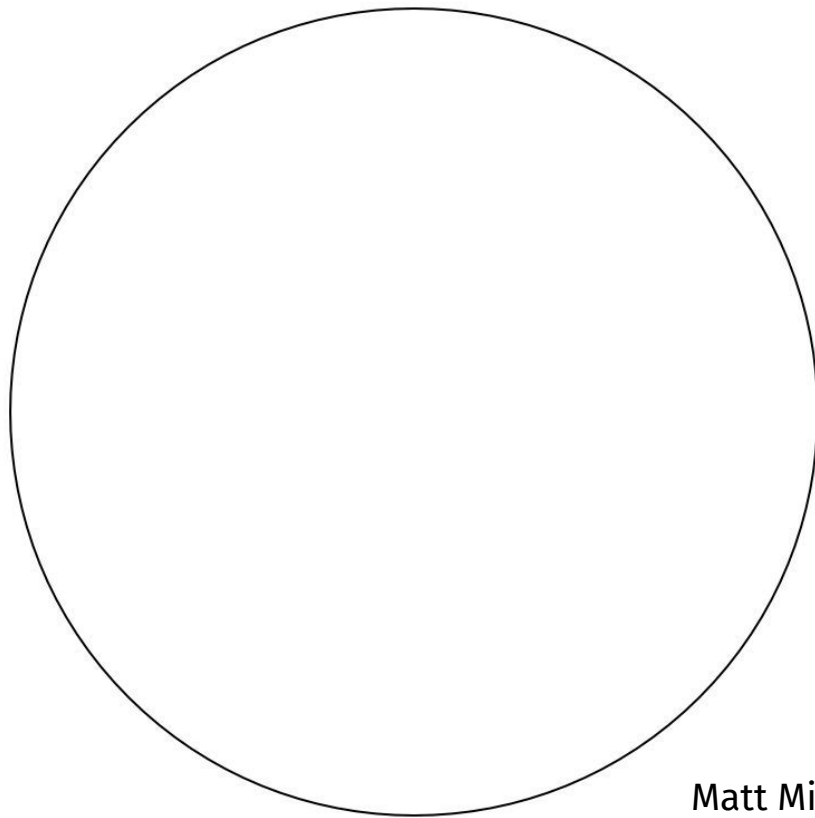
Prairie Wentworth-Nice '18

Meghana Ranganathan '14

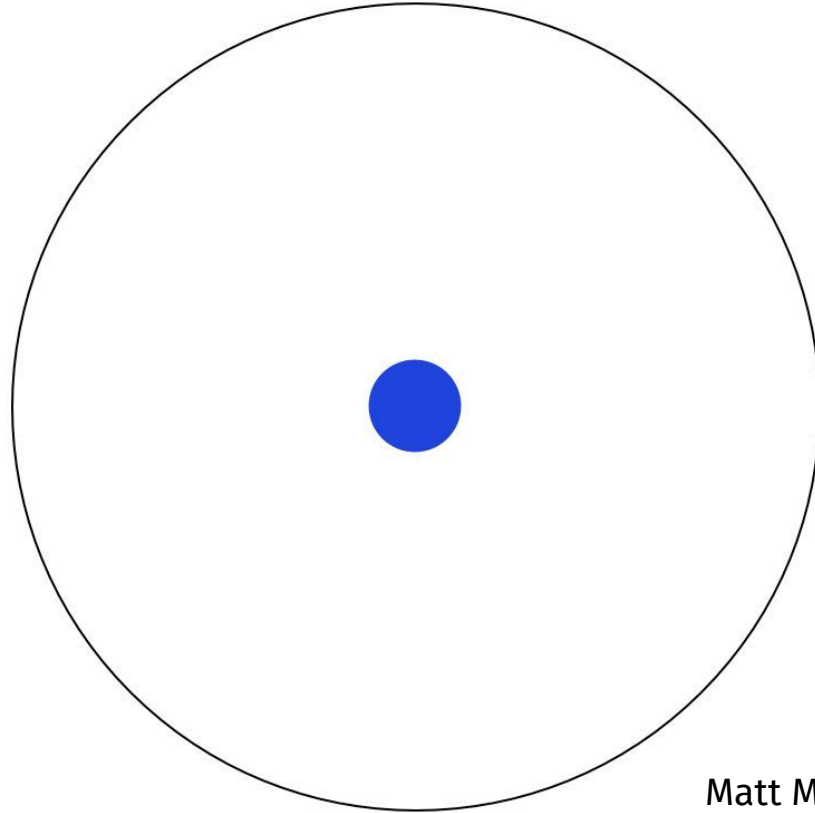
Heather Zhou '16

Christina Durón '12, PhD

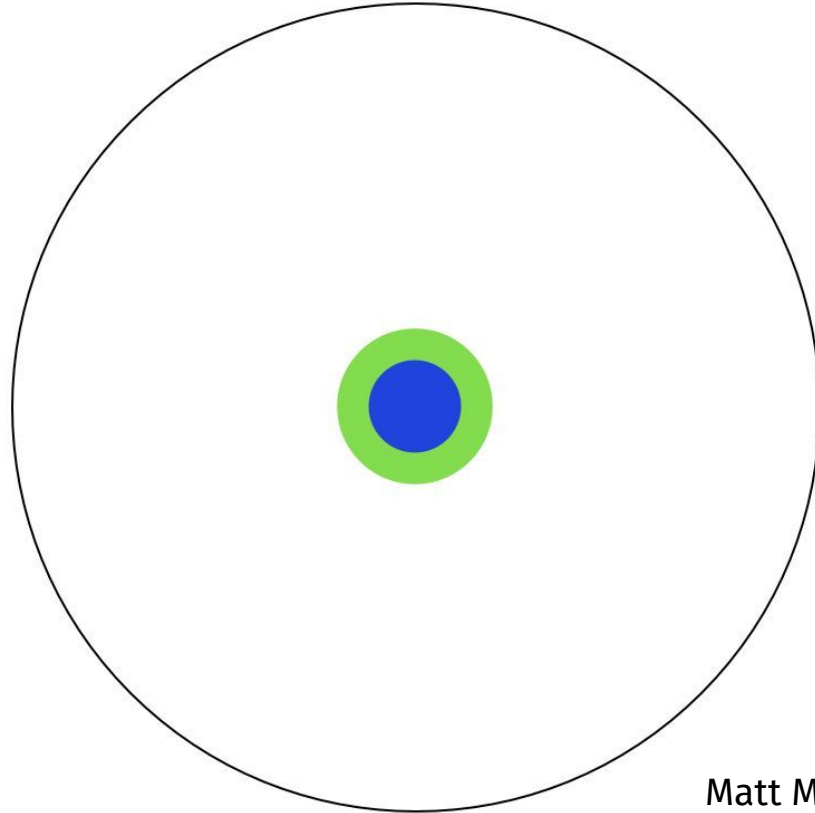
What is grad school?



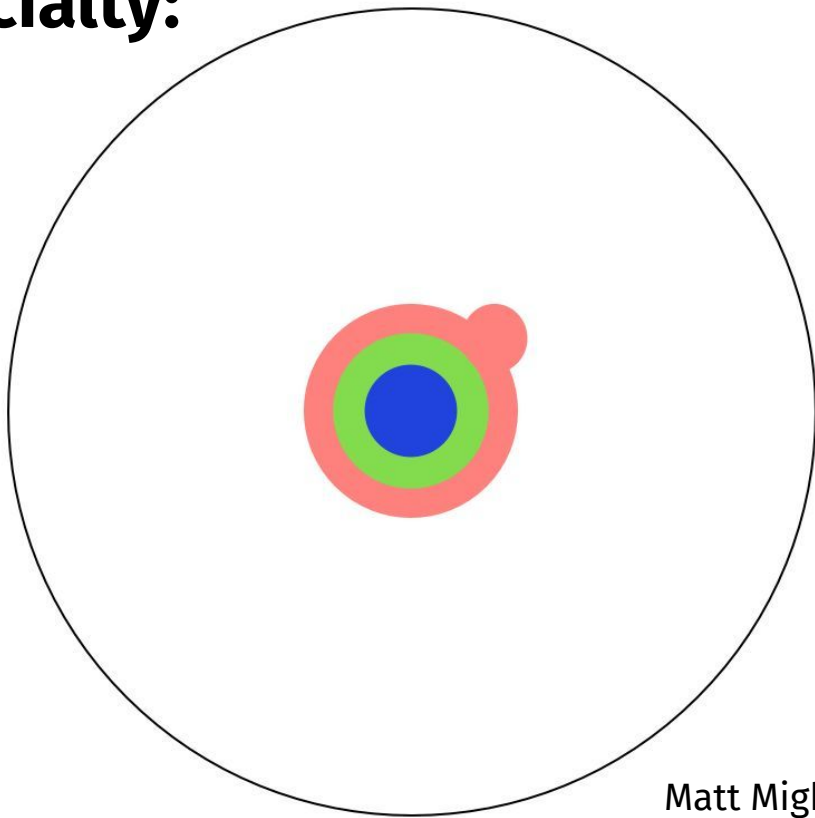
By the time you finish elementary school, you know a little:



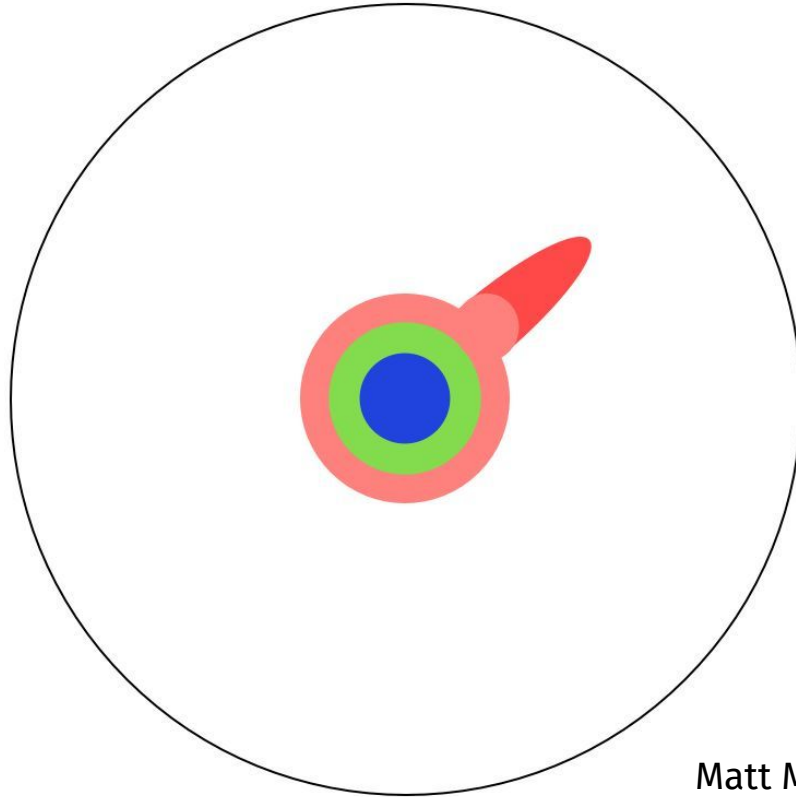
By the time you finish high school, you know a bit more:



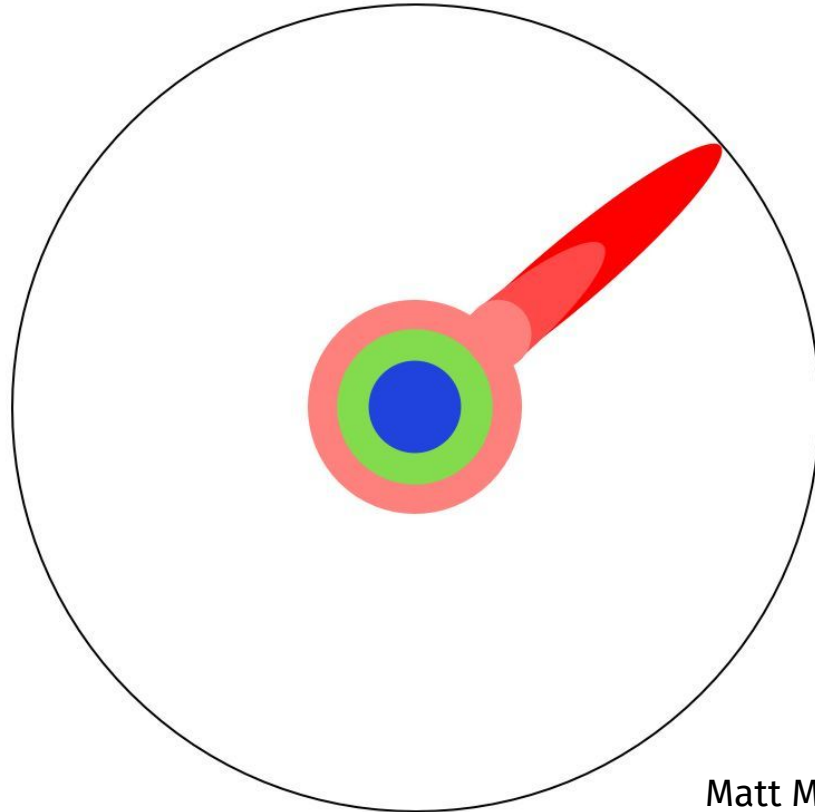
With a bachelor's degree, you learn even more and also gain a specialty:



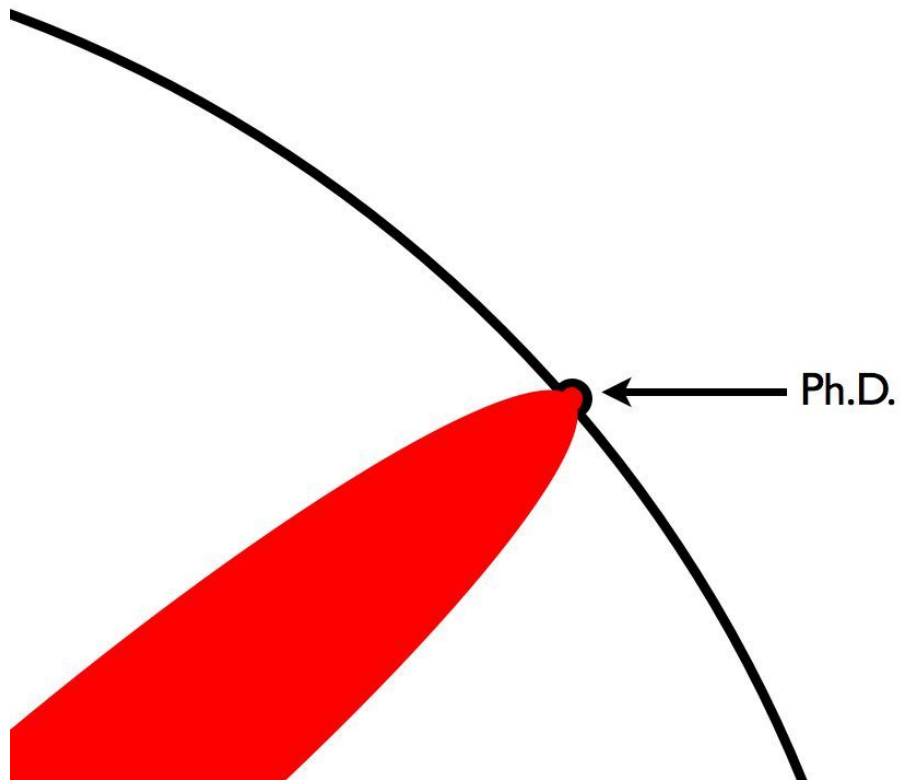
A Master's degree deepens that specialty:



Reading research papers takes you to the boundary of knowledge:



And if you push at the boundary long enough:



What is grad school?

M.S. or M.A. programs:

- Typically 1-3 years
- Focus on coursework
- May include “capstone” project
- May or may not be funded
- Goals of program (eg professional vs PhD preparation) vary

PhD programs:

- Typically 5-7 years
- First few years focus on coursework, transition to a research stage
- Concludes in a dissertation
- Funded (often with teaching responsibilities)

Application Package

- CV
- Letters of Recommendation
- Personal Statement/Statement of Purpose/Research Statement
- Test Scores
 - GRE General
 - TOEFL
 - GRE Subject

You should begin working on these materials well before application deadlines (generally late in the fall semester).

Tips for Success from Profs Chen and Talvacchia

- What have former Swatties done to be successful in getting into programs?
- What are the most important parts of an application package?
- What should sophomores or juniors be doing to prepare?
- What do you do if you don't get into any graduate programs?
- Why grad school?

Applying to grad school?

—

(some advice is specific to PhD programs in pure math)

Questions to ask yourself:

- Where do I want to spend the next 5-6 years?
- How do I want to spend the rest of my life?

Important parts of application:

1 | Coursework and GRE

Take advanced courses, e.g. second semesters of real analysis and algebra; topics classes; honors classes; reading courses.

GRE: study, take practice tests; aim for junior year to leave time for possible retake.

2 | Statements

Programs want candidates who will succeed. Do you know what you're getting into? Do you have a strong background? Have you done research or other independent work before?

Start early, get feedback, edit!

3 | Recommendation letters

Make sure faculty get to know you, and know about your career plans: participate in class, talk to your teachers after class, e.g. office hours. Write and present material clearly.

(More on this on next slide.)

How to get a stronger letter:

A | Be active in the community

Participate in the problem solving group, take the Putnam, be active in AWM/W+iMS, math club, etc.

Give a talk, present a poster, attend lectures and meals, be on a panel, organize events, do outreach.

B | Be a good citizen

Do you help create a positive and supportive environment in and out of class? Have you been a grader or clinician? Do you work well with others, as well as independently?

See also (A)

C | Be professional

Ask early (at least a month), provide documents, explain where and why, ask for advice and feedback.

Create a doc with all info.
Send reminder 1 week before due date.

3 other tips

1. **Apply for outside grants**

NSF (National Science Foundation), NDSEG (National Defense Science and Engineering Graduate Fellowships), etc.

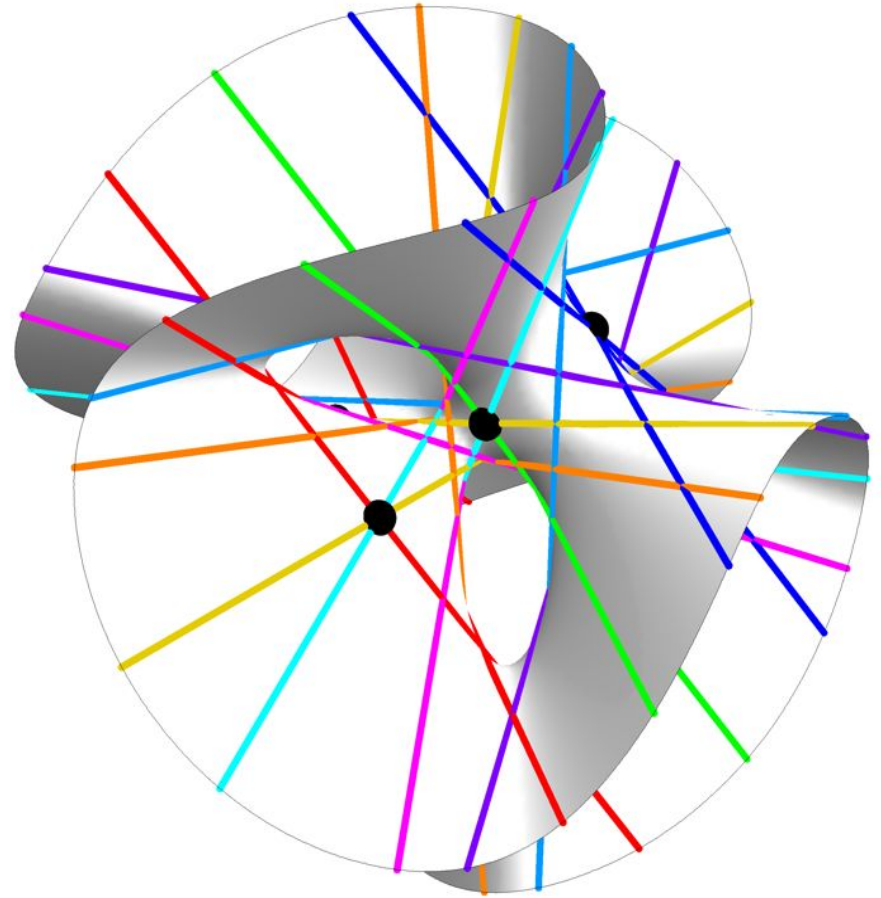
2. **Maintain a (free) simple professional website with your CV**

e.g. Google Sites, WordPress, Squarespace, Weebly

3. **Gather information and use your network**

Talk to alum, talk to profs (at Swat and elsewhere), use the internet

Good luck!



Types of programs:

- Pure Math
- Applied Math
 - Courses: Partial Differential Equations, Modeling, Probability, or Complex Analysis
 - Programs exist on an applied \leftrightarrow theoretical spectrum
- Statistics or Biostatistics
 - Courses: Probability, Math Stat I & II, Linear Algebra, Analysis, CS
 - Programs exist on an applied \leftrightarrow theoretical spectrum
- Data Science or Machine Learning
 - Courses: Probability, Linear Algebra, CS, Math Stat I & II
- Other quantitative-focused programs

How the department can support you:

Early in the process:

- Planning coursework
- Answering questions
- Researching programs
- Conferences and Society Memberships
- Funding opportunities

Later in the process:

- Help with personal statements
- Writing letters of recommendation
- Making decisions

Don't forget: **Part II: Alum Panel Discussion 4:30-5:30**

Hear from recent alums about their current grad school experiences

Get more advice and ask more questions!