Graduate Studies at UMBC CSEE: How to Succeed

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Adapted from presentations by Professor Marie desJardins

What we'll cover

- Graduate lifecycles
- UMBC resources
- Success in your research
- Academic integrity
- An illustrated guide to a graduate degree

Real Graduate Students of UMBC

Lifecycle of an MS Student

- Take courses
 - Talk to your advisor (there for a purpose!) and ask other students as well
 - Take 2-3 courses/semester if supported
 - Can transfer up to 6 credits, but ...
- Internship: apply Nov-May for summer
- Thesis or project research
 - Thesis: 6 credits, typically over two semesters
 - Project: 3 credits in one semester (+ more courses)
 - Thesis vs. project considerations
 - Publish research paper
- Apply to Ph.D. program or interview and get job

Lifecycle of a Ph.D. student

- Take courses and find an advisor
- Read lots of papers, start thinking of a problem
- Take 699 or CMSC 601 for early research experience
- Complete portfolio
- Take more courses to support your research area
- Develop a dissertation topic, do preliminary research to establish feasibility, recruit a committee
- Write & defend dissertation proposal (prem. exam)
- Work more, sleep less, coffee, dine at vending machine, write papers, present papers, write dissertation
- Defend dissertation
- Interview and get job

Research Advisors

- You have a temporary advisor who is ... temporary
- S/he won't necessarily be your research advisor and is under no obligation to take you on as an advisee
- You are responsible for finding an advisor who will guide your research – whether MS or Ph.D.
- Ideally, do this early on in your second semester, but positively by the end of your first year
 - –Renewal of support depends on it!
 - —Don't leave it to the last minute!
 - -Submit the change-of-advisor form *even if your* temporary advisor will also be your research advisor!

How not to find a research advisor

Repeat

- Room=Select random (CSEE_Faculty_office)
- Occupant's research area = google_lookup(name(room))
- Knock on door
- Pretend to be interested in <Occupant's research area> and express strong desire to work with them
- Until (Found assistantship/advisor)
- Another bad strategy: follow the money

How to Find a Research Advisor

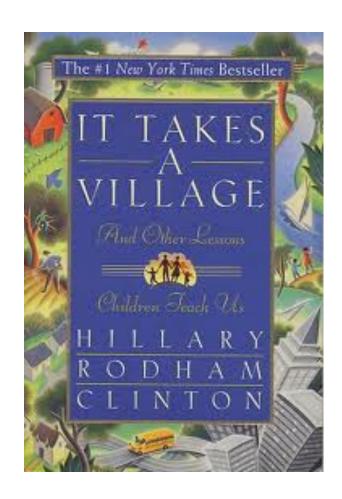
- Decide which area(s) interest you: all areas is not a valid answer!
- Take classes in those areas
 - Very important even more important than taking core/ comp classes, if it comes down to a choice!
- Talk to students working in those areas what do they they do? what are their advisor's interests?, inside scoop on the group?, etc.
- Go to as many (relevant) talks as possible
- Read a lot on the topics you're interested in
- Downselect to a few faculty members, arm yourself with knowledge about their projects and how you might fit in...

How to Contact a Potential Advisor

- Knock on door or set up an appointment by e-mail
- Icebreaker questions:
 - I'm interested in areas X, Y, and Z. Can you tell me more about your research in those areas?
 - Do you have any ongoing projects that I might be able to learn more about or contribute to?
 - May I sit in on your lab meetings?
- Be persistent...
 - Stay in touch with your potential advisor(s)
- ...but not annoying
 - Remember that faculty are usually very busy and have limited time

Develop relationships with faculty

- Just as "it takes a village to raise a child", it takes a department to train a grad student
- To do your research, you will probably need to become expert in several new areas
- Pragmatically, you will need a committee of three to five faculty for your MS thesis or PhD thesis



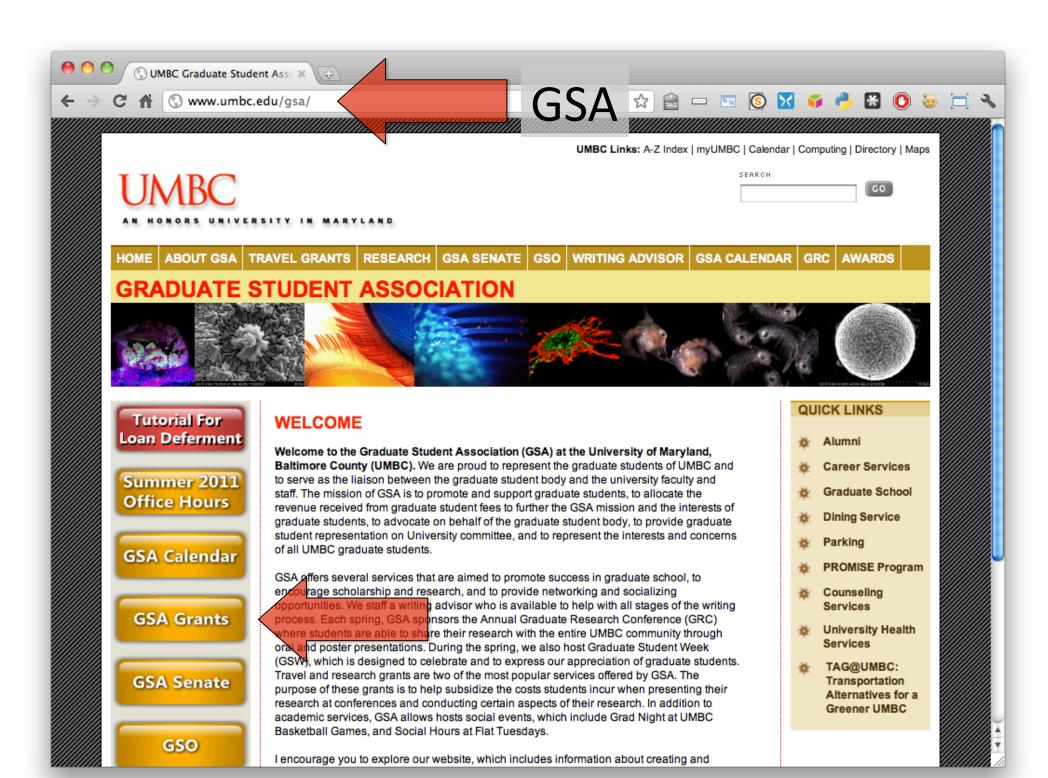
Have a presence on the Web

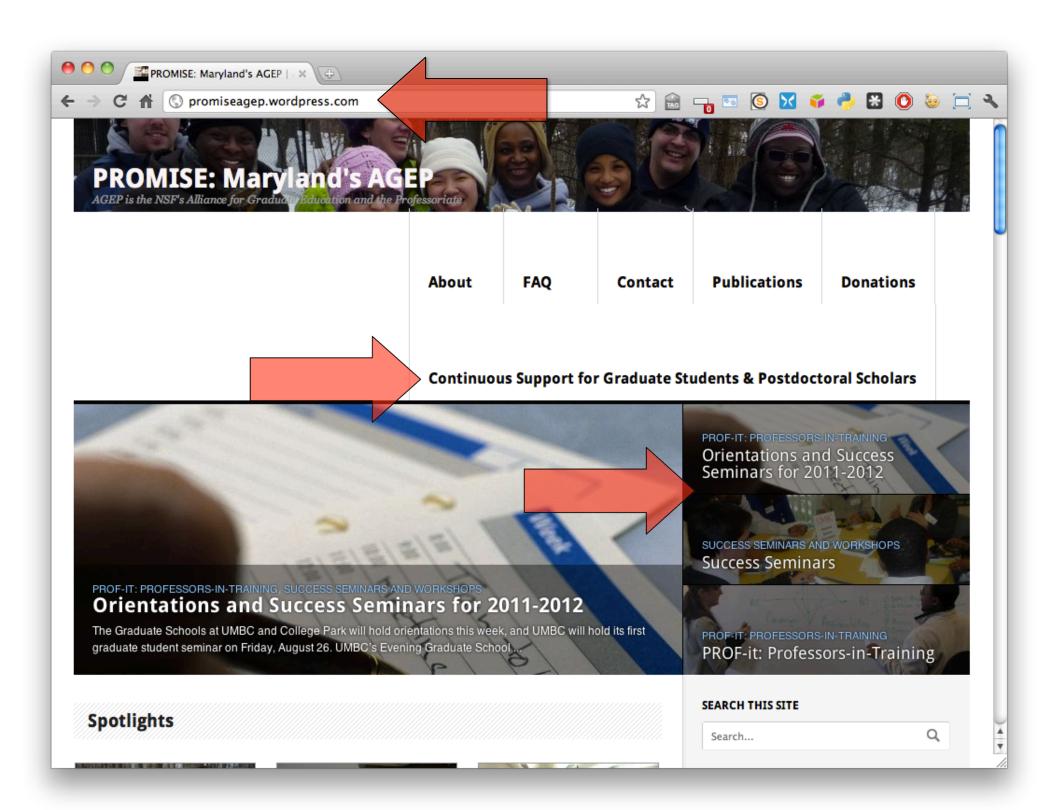
- Have a set of web pages, including your CV, and keep them current
- Put your papers and presentations online
- Consider developing a blog and posting frequently – it's good practice writing
- Make demos, programs, data & code available
- Create and maintain a unique and valuable resource (e.g., an annotated bibliography)
- Contribute to online mailing lists, newsgroups,
 Wikipedia, Q&A sites, etc.

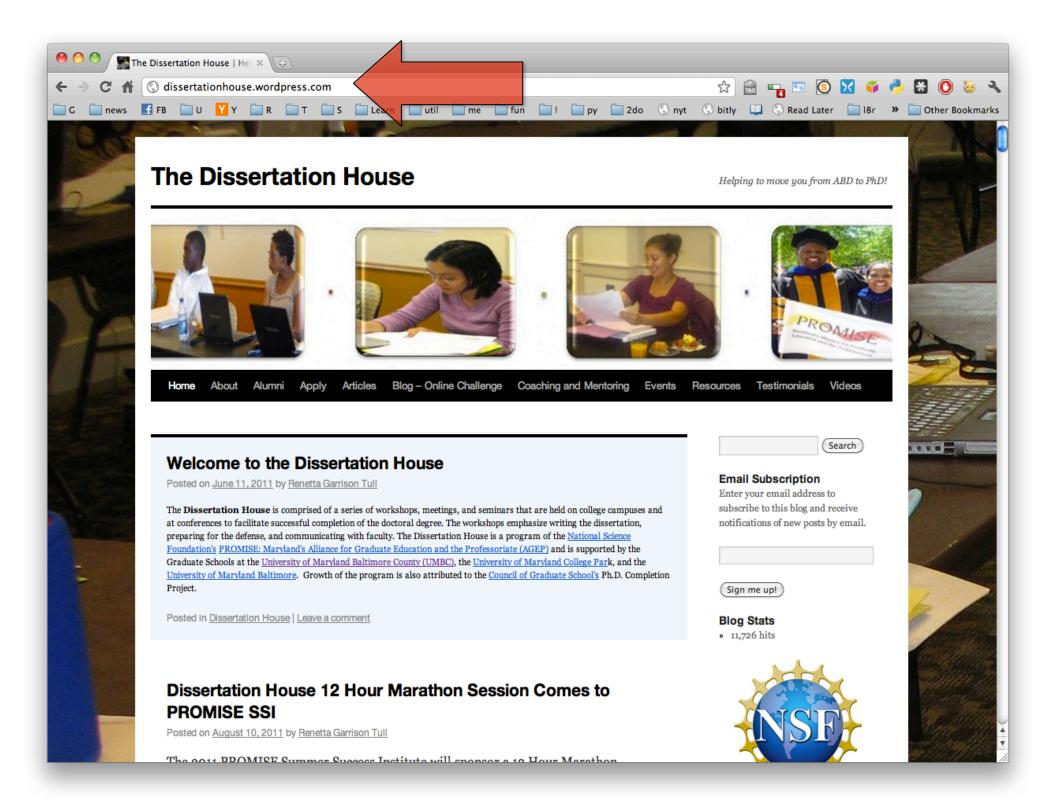
Have a presence on the Web

- Use online social networking systems like LinkedIn and Facebook
 - Many of your graduate student peers will remain in your professional network for decades
- Optimize your online presence for search engines
 - Write titles for both people and search engines
 - Ask: what terms will the people who I want to find my paper search for?
- Keep up with the technology and trends
- Develop a brand

Campus Resources and Activities







Other Student Groups

- ACM Student Chapter
 - President: Yasaman Haghpanah,yasamanhj@umbc.edu
- IEEE Student Branch
- Linux Users Group
- National Society of Black Engineers

GSA Graduate Research Conference



- Held in April
- Research talks and posters by UMBC graduate students
- Feedback and awards for best presentations and posters

CSEE Research Review



presentations and posters

CSEE Hi Tea



- Tea, snacks and conversation
- Held every Friday's at 3:00pm in the hallway outside ITE 325
- Organized and run by CSEE graduate students



Keep in Touch

- Read email sent to your <u>@umbc.edu</u> address
- Monitor CSEE news
- CSEE homepage: http://csee.umbc.edu/
- RSS feed on http://csee.umbc.edu/
- Facebook: like http://facebook.com/
 /pages/csee/104803409392
- Twitter: follow <u>@UMBCCSEE</u>
- my.umbc.edu: join the CSEE Group

Academic Integrity

Professionalism

- Profession: "a calling requiring specialized knowledge and often long and intensive academic preparation" (Merriam-Webster online)
- Graduate school is your transition from student to professional
- Successful professionals exhibit appropriate standards and integrity
- The following comments on academic standards are also standards of our professions

UMBC Academic Integrity Policy

"By enrolling in this course, each student assumes the responsibilities of an active participant in UMBC's scholarly community, in which everyone's academic work and behavior are held to the highest standards of honesty. Cheating, fabrication, plagiarism, and helping others to commit these acts are all forms of academic dishonesty, and they are wrong. Academic misconduct could result in disciplinary action that may include, but is not limited to, suspension or dismissal."

Statement adopted by UMBC's Undergraduate Council and Provost's Office

What Does It Apply To?

- Class work: Homework, exams, projects
- Research: proposals, reports, data, code
 ...even if not published, if it is represented as your
 work it must be your work
- Publications: in journals, conferences, workshops, symposia, self published
- If you have to ask if it applies, the answer is almost certainly YES
- When in doubt, ask your professor/advisor!

Academic Integrity Violations

Cheating:

- Copying answers from another student or any outside source
- Obtaining exam questions illegally

• Fabrication:

- Falsification of data or results
- Misrepresenting your qualifications

Plagiarism Buts

Representing somebody else's words as your own is plagiarism

- But I cited the reference in the bibliography!
 If you didn't explicitly quote the text you used and cite the source where you used the text, it is plagiarism.
- But I only used some of the words!
 - Scattering some of your own words and rephrasing isn't enough; if the ideas are not restated entirely in your own words, it is plagiarism.

Plagiarism Buts

 But only the introduction and background material are borrowed; all of the original research is mine

If somebody else's words appear in any document that you have represented to be written by you, it is plagiarism.

 But it was only a draft/not an official classroom assignment, so I didn't think it counted

If you represented somebody else's words as your own, even in an informal context, it is plagiarism.

Plagiarism Buts

 But the professor told me to use that source!

Unless you are explicitly told to copy a quote from a source, you must write your answers in your own words even if you use a specified source. If somebody else's words appear in your assignment without correct attribution (quotation marks and citation at the point of the quote), it is plagiarism.

Sometimes attribution gets overlooked through oversight, but it is your responsibility to minimize the possibility that this can happen.

Abetting

- Helping another student to cheat, falsify, or plagiarize will generally result in your receiving the same penalty
- Know what your project partners are doing; if you turn a blind eye to their cheating, you may be hurting yourself

Penalties

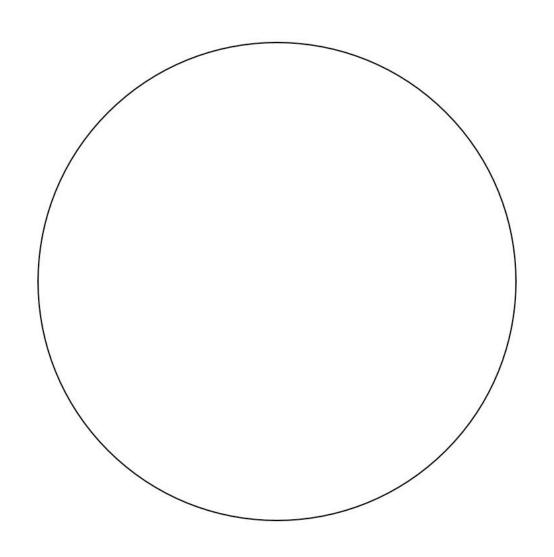
- Each professor sets his or her own policies.
- Typical penalties depend on the severity, and whether it is a first offense. They may include:
 - Receiving a zero on an assignment (even if only part of the assignment was plagiarized or copied)
 - Being required to redo the assignment, without credit, in order to pass the class
 - Receiving a full grade reduction in the class (e.g., an A becomes a B, a B becomes a C)
 - Suspension or expulsion from the university

Illustrated guide to a Ph.D.

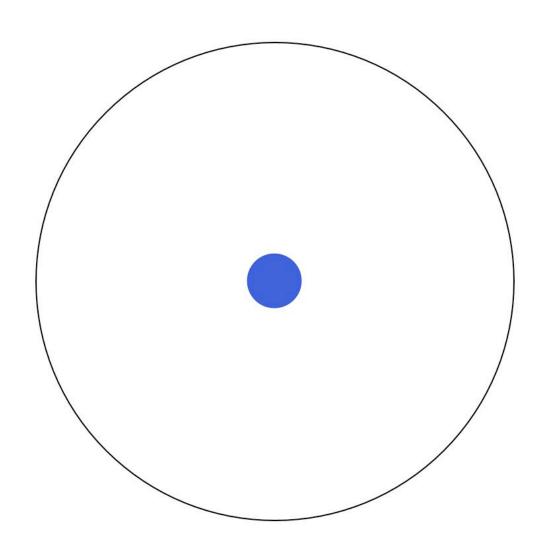
The illustrated guide to a Ph.D.

- Professor Matt Might, CS, University of Utah has a good way of explaining what it means to do a Ph.D.
 - It is also applicable to doing MS research
 - and probably your life after graduation
- The presentation is licensed under the Creative Commons Attribution NonCommercial
 2.5 License

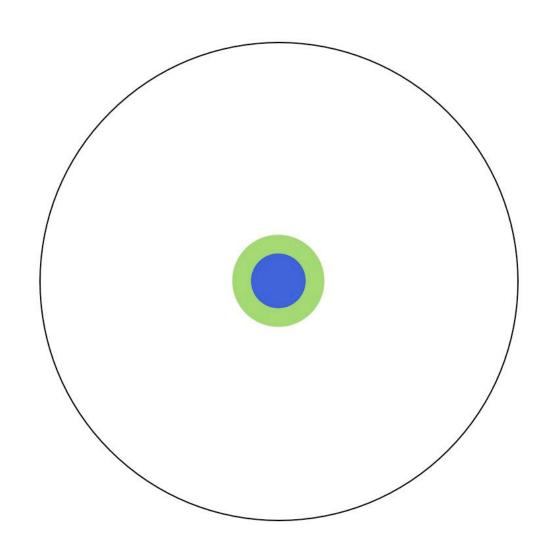
imagine a circle that contains all of human knowledge



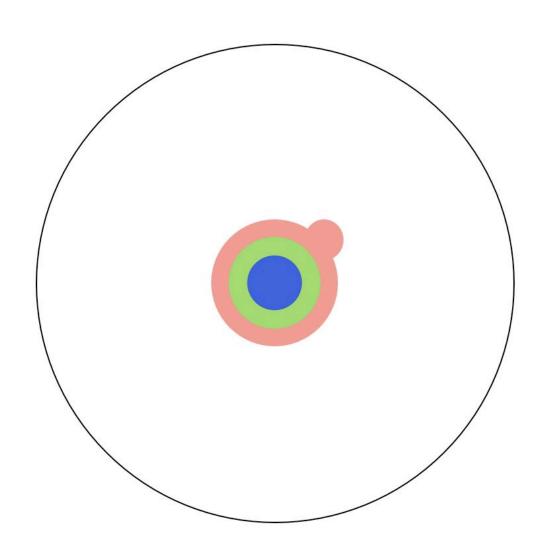
By the time you finish elementary school, you know a little



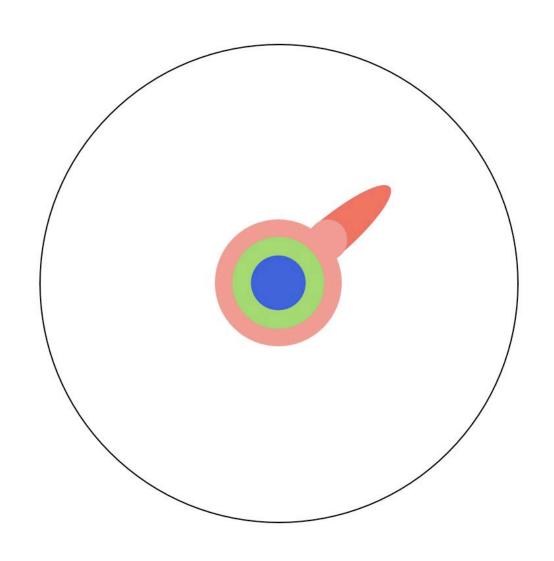
By the time you finish high school, you know a bit more



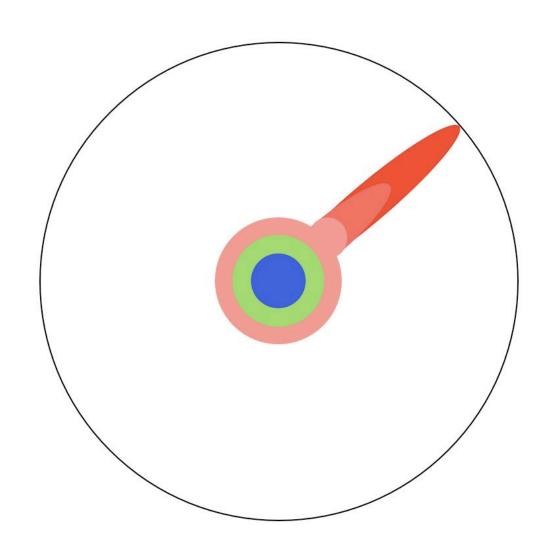
With a bachelor's degree, you gain a specialty



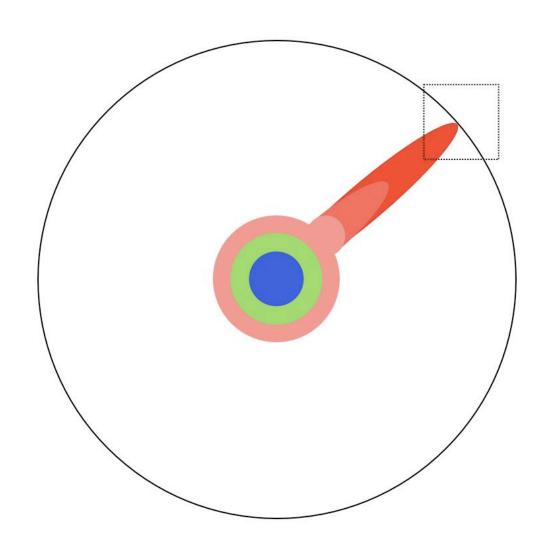
A master's degree deepens that specialty



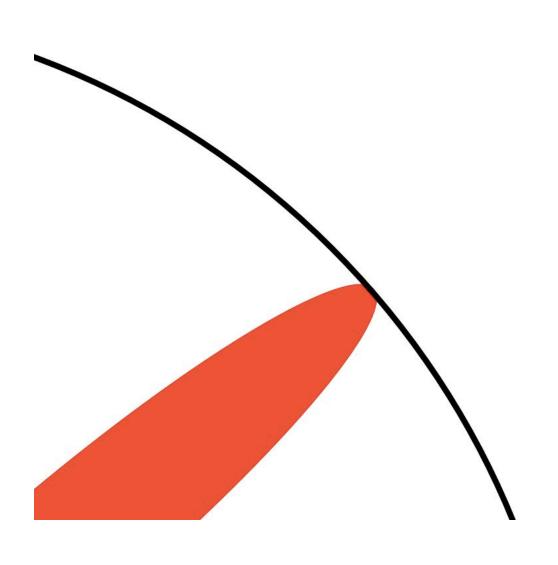
Reading research papers takes you to the edge of human knowledge



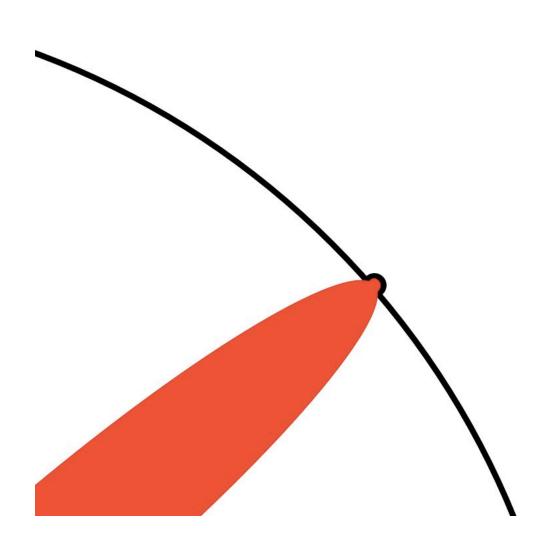
Once you're at the boundary, you focus



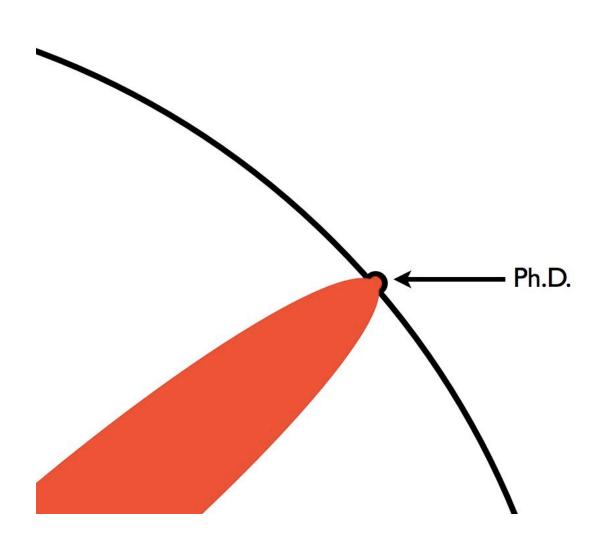
You push at the boundary for a few years



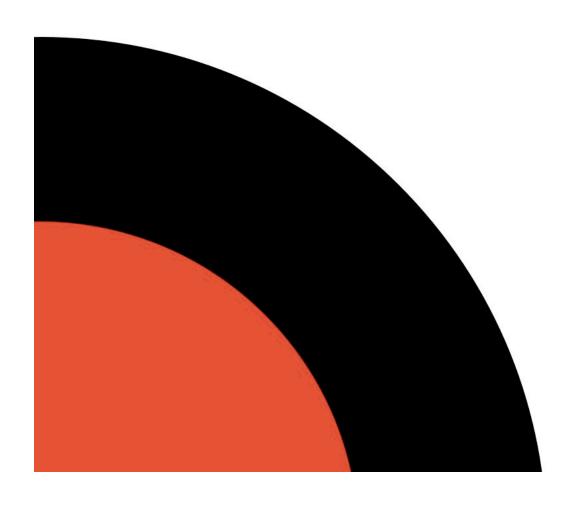
Until one day, the boundary gives way



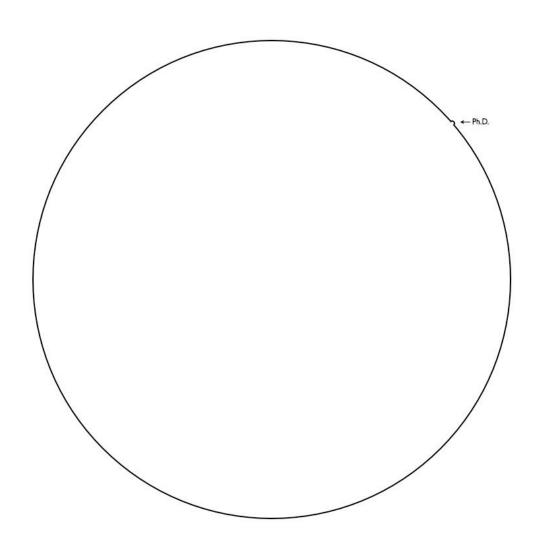
And, that dent you've made is called a Ph.D.



Of course, the world looks different to you now



So, don't forget the bigger picture



Keep pushing

