



# Applying for graduate school (in Biology<sup>1</sup>). 2021

*Ryo Higuchi-Sanabria*  
*Assistant Professor of Gerontology*

# Should I even go to graduate school?



## YES

- Academic research: includes universities, research institute, non-profits.
- Scientific Journal Editor<sup>1</sup> : almost all scientific journals require a PhD.
- You don't know what specifically you want to do, but you know you want a job in life sciences (e.g., you don't know if you want to teach, go into industry, or science writing/policy)<sup>2</sup>. Grad school won't close doors!

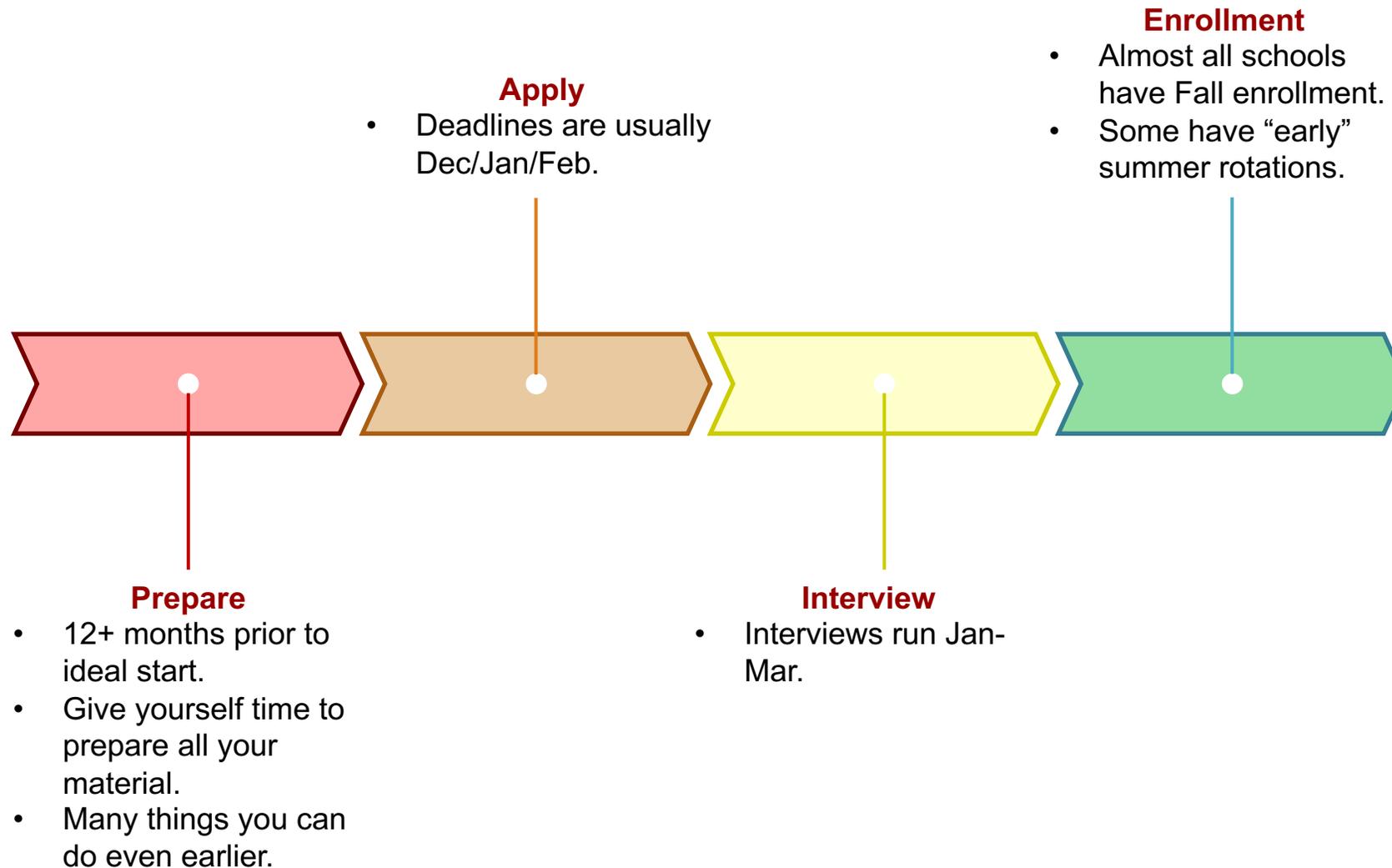
## MAYBE

- Teaching: at the university level, it is usually required. In teaching colleges, a masters may be enough.
- Industry research<sup>3</sup>: many industry positions require a PhD, especially at higher levels.
- Some technical jobs (e.g., core facilities director, animal housing, etc.) require a PhD.

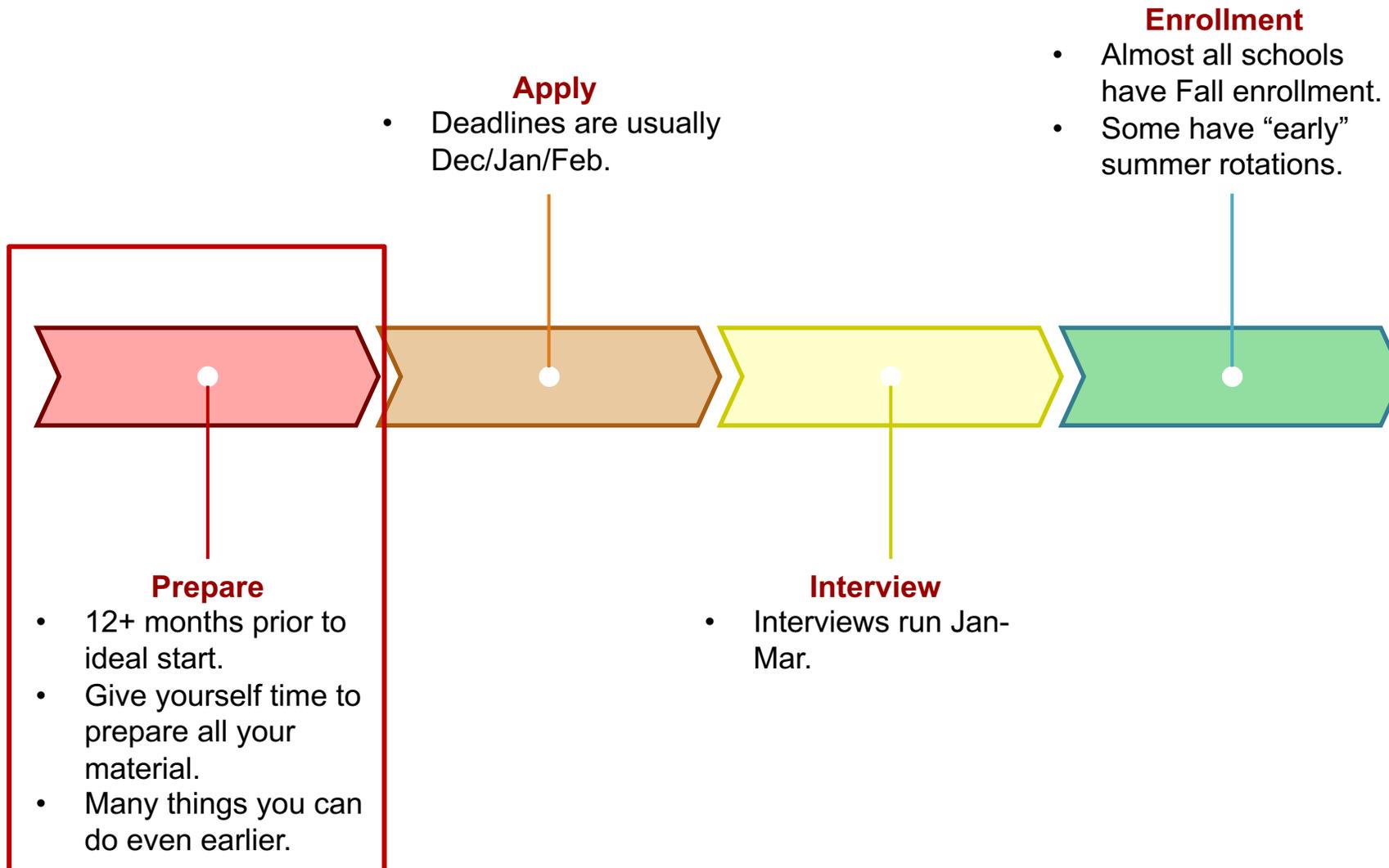
## NO

- Medical school<sup>4</sup>: unless you are missing core requirements<sup>5</sup>.
- Consultant: unless you want to go the life-science routes.
- Sales, project management, and application scientist (some application specialists, such as those in microscopy, require a PhD).

# When should I apply?



# When should I apply?



# Step 1: Thinking about graduate school?



- Before you even begin, if you're thinking graduate school may be right for you, there are many things you can do!
- Find research opportunities<sup>1</sup>.
  - There is no way to definitively know for sure if research is right for you if you never do research.
  - First time research opportunities are hard to find – it's like trying to find your first job ever. Most likely will need to be a volunteer position and won't necessarily be in the field you are passionate about.
  - BE OPEN MINDED. Take any position that you can get a positive experience from.
  - Apply to as many labs as you can! Research roles are competitive – this doesn't mean apply to things you have no interest in or will serve you no value.
- Should you do a gap year/masters?
  - Some programs rarely take students directly from undergrad (psychology), while other programs very commonly do (biology).
  - Most schools will not consider a student with no research experience, so if you have no research experience, you will likely need a gap year or consider a Masters.

# Tips for finding a research position before graduate school.



- Likely, you will have no research experience if this is your first position you are applying for. Dig into your past experiences and try to highlight what you actually have that can help.
  - Work experience is good experience! Working at fast food industry teaches you work ethic, time management, how to work with other people, etc. Highlight all your experience.
  - RESEARCH THE LAB. Read the website, read a few abstracts of papers – write a personalized email and explain why you are interested in the lab and why the lab is a good fit for you.
- When applying for positions, send emails directly to professors. Most professors do not have “open calls” for undergrads, so the only way to know is to reach out.

# Finding a research position: Email the professor.



|               |  |
|---------------|--|
| Subject Line  | To the point: Application for undergrad research.  |
| Greeting      | Professional: Dear Dr./Professor X <sup>1</sup> ,  |
| Who are you?  | What makes you suitable for the lab?<br>Educational experience, technical skills, research background, major achievements.                   |
| Why this lab? | What specifically about this lab makes it a good fit?<br>-Research interests: be specific!<br>-Your relevant skills and research experience. |
| Others?       | What makes you unique?<br>-DEI initiatives, teaching experience, management experience, etc.   |

# Finding a research position: Cover Letter.



**USC** Leonard Davis

School of Gerontology

*Ryo Higuchi-Sanabria, PhD*

*Assistant Professor of Gerontology, Biological Sciences,*

Dear Dr./Professor X.

- Who are you?
  - Undergraduate and other educational background.
  - What makes you suitable for the lab?
  - What is your research and technical experience?
  - Major achievements: awards, degrees, certifications, summer programs, volunteers, work experience (even non-science) etc. **Do not make an exhaustive laundry list – your CV does this.**
- Why this lab?
  - Why are you specifically interested in this lab's research?
  - Why do your skills and background make you suitable?
- Extra credit
  - What project do you want to do in this lab?
  - Show that you read some papers – minimally the lab website.

University of Southern California

3715 McClintock Ave. Room B14, Los Angeles, California 90089 • ryo.sanabria@usc.edu



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# Finding a research position: Curriculum Vitae/Resume.



- Send a good CV.
- Make it easy on the eyes!
  - Organize: bullet points, use bold wisely, consistent format, be cautious with bold colors.
- Content:
  - volunteer experience
  - education experience
  - work experience (even non-science!)
  - honors & awards
  - Rare, but if you have it: research experience & publications
- Tips:
  - Have as many people as you can look at it!
  - Do not false advertise!!!
  - Make sure you do not have grammatical or spelling errors.

**Jack Corden**  
Associate Professor of English Literature

Phone 0777 777 7777      LinkedIn linkedin.com/in/j\_cordenzety  
E-mail j\_cordenzety@gmail.com

Passionate researcher and lecturer with 10+ years experience in the field of English literature. Experienced in teaching undergraduate and postgraduate students including supervision of MA and PhD theses. Author of two books focussing on the legacy of the Southern Gothic genre on contemporary literature and media. Regular contributor of paper and poster conference presentations in the UK and abroad.

#### TEACHING EXPERIENCE

- 2017-09 - present **Associate Professor of English Literature**  
*University of Roehampton*
  - Undertook teaching of 10 undergraduate and three postgraduate courses, helping students to achieve a 10% year on year increase in average final results.
  - Delivered lectures to classes of 60+ students, delivering material that was consistently rated as outstanding in student course assessments.
  - Member of Internal Programme Examinations Board
- 2009-09 - 2017-08 **Lecturer in English Literature**  
*Kingston University*
  - Assisted with delivering undergraduate English literature degree offering
  - Undertook teaching of 6 undergraduate courses of 50+ students under direct supervision of department head

#### EDUCATION

- 2006-09 - 2009-08 **Kingston University, PhD**
  - Grayling Bursary funded research titled 'Steinbeck and Hemingway: Legacy of Legends in Contemporary American Literature'. Supervisor: Professor Sid Dershowitz, Kingston University.
- 2003-09 - 2006-08 **Kingston University, MA English Literature**
  - Thesis titled 'The Development of the Anti-Hero in Mythopoetic Southern Literature'. Supervisor: Associate Professor Jane Grey, Kingston University.
- Kingston University, BA English Literature (Hons)**
  - Achieved 1st-class honours.
  - Modules included Literature of the New World, Contemporary Literature of Central Europe and Literary Influences on Popular Culture.

#### LANGUAGES

- German ◆◆◆◆◆ C1

#### PROFESSIONAL MEMBERSHIPS

- 2010 British Comparative Literature Association
- 2011 British Association for Contemporary Literary Studies
- 2011 Royal Society of Literature

## Finding a research position: What to expect in an interview.



- Interviews are usually just with the professor, but sometimes you may meet with other members of the lab.
- Sometimes they may ask you to prepare a talk or other material, but this is rare at the undergraduate level.



# Finding a research position: Meeting with the professor.



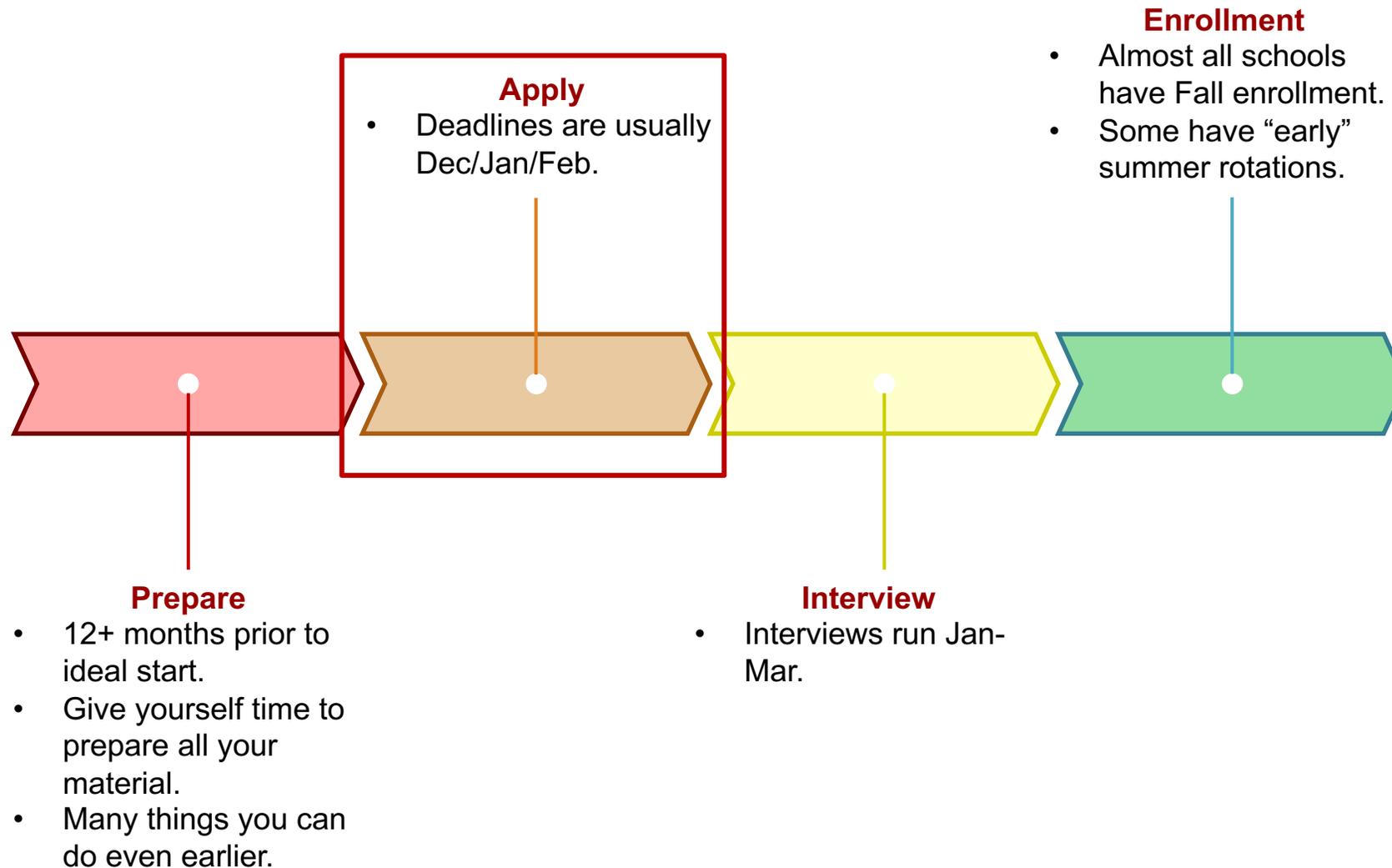
- Be prepared for:
  - What are your future career goals?
  - Why do you want to work in my lab? What research interests do you have?
  - What experience – if any – do you have that can assist you in succeeding in this lab?
  - What is your relevant background, e.g. in coursework?
  - How many hours/days can you commit? How many years can you commit?<sup>1</sup>
  - What difficult projects or experiences have you faced and how did you overcome them?
  - How well do you work with people?
- What you can ask:
  - What is the dynamics of the lab – social, personal, work, competitive/supportive?
  - Mentorship style – more/less involved?
  - Are there other students in the lab and could you talk to them?
  - Expectations of work, time commitment, etc.
  - What does the day to day look like for an undergrad?
  - Timing – when to expect to hear back.
  - Are there any concerns that you can address in person?
  - If you did your homework, ask about the research in the lab.
  - You can also ask to tour the lab or talk to other students.

# Back to applying to grad school: Other thoughts.



- Is my transcript up to par?
  - Some schools have specific classes as a prerequisite, while other schools may have a specific number of credits required.
  - Some schools have GPA cutoffs, but a bad GPA won't completely disqualify you.
    - You can try to increase your relevant GPA – for molecular biology courses, if you can take a few molecular biology classes and get good grades in them, that can offset a bad GPA.
    - You can take subject GREs and if you do well, that can offset bad GPAs.
    - Reference letters and personal statements can address bad GPAs – do you have a hard job, do you have a sick family member, etc.
- GRE – many schools are now foregoing GRE requirements, but some schools still have them.
  - Remember, some schools will still take a GRE score even if it isn't required. If you have a bad application package, a top-tier GRE score can save you.

# When should I apply?



## Step 2: What schools are right for me?



- Remember: start looking for schools the summer before you plan to apply.
- Search for the type of program you are interested in: clinical research, fundamental biology research, social science, etc.
- Base your school on your interests:
  - What field do I like? Immunology, nutrition, cell biology, molecular biology, etc.
  - Are there professors doing research that I am interested in?
  - Keep in mind that some programs are very broad & flexible.
    - Integrated/general biology are broad.
    - More niche sciences tend to be less flexible and have less options.

## Step 2: What schools are right for me?



- Filter 1: topic – don't apply for a cell biology program if you want to do social science.
- Filter 2: Geography – is this a place I could actually live in for 4-8 years? Graduate school is hard and hating where you live won't help.
- Filter 3: What do you care about most?
  - School culture
  - Program flexibility
  - Ranking (USNews rankings is usually accurate)
  - Professors
  - Coursework

## Step 2: What materials do I need?



- CV – we talked about this already.
  - Follow the same guidelines for CV/resume for finding a research position.
- Reference letters.
  - Get personalized letters from people who really know you.
- Personal statement.
  - The personal statement is potentially the most critical item.
  - You can follow mostly the same format as cover letters for research positions.
  - Use this as a vehicle to paint the picture of yourself!
    - Mention things that aren't possible anywhere else.
    - Highlight your major strengths.
    - Address your weaknesses – don't overshare!
- Grades – transcripts, GRE, etc.

## Reference letters.



- Ask WELL in advance – reference letters can be a lot of work, especially if you are applying to a lot of schools, so give the writers advanced notice.
- Try to diversify your portfolio – don't just ask professors of classes<sup>1</sup>. Ask people who can talk about your work ethic, your personality, address weaknesses and highlight strengths, research mentors, etc.
- For people that don't know you that well, you may need to provide a template, draft, or a list of things you want mentioned.
- Even for people that know you well: tell them if you want something specific included!

# Personal statement.



**USC** Leonard Davis

School of Gerontology

*Ryo Higuchi-Sanabria, PhD*

*Assistant Professor of Gerontology, Biological Sciences,*

Dear Dr./Professor X & selection committee,

- Who are you?<sup>1</sup>
  - Undergraduate and other educational background.
  - What makes you suitable for the school?
  - What is your research and technical experience?
  - Major achievements: awards, degrees, certifications, summer programs, volunteers, work experience (even non-science) etc. **Do not make an exhaustive laundry list – your CV does this.**
- Why this school or program?
  - Why are you specifically interested in this school? Why would you succeed here?
  - Why do your skills and background make you suitable?
- Extra credit
  - Who could you potentially work with? **REQUIRED IN SOME SCHOOLS!**<sup>2</sup>
  - Research what's important to the school and mention if they align with what is important to you.

University of Southern California

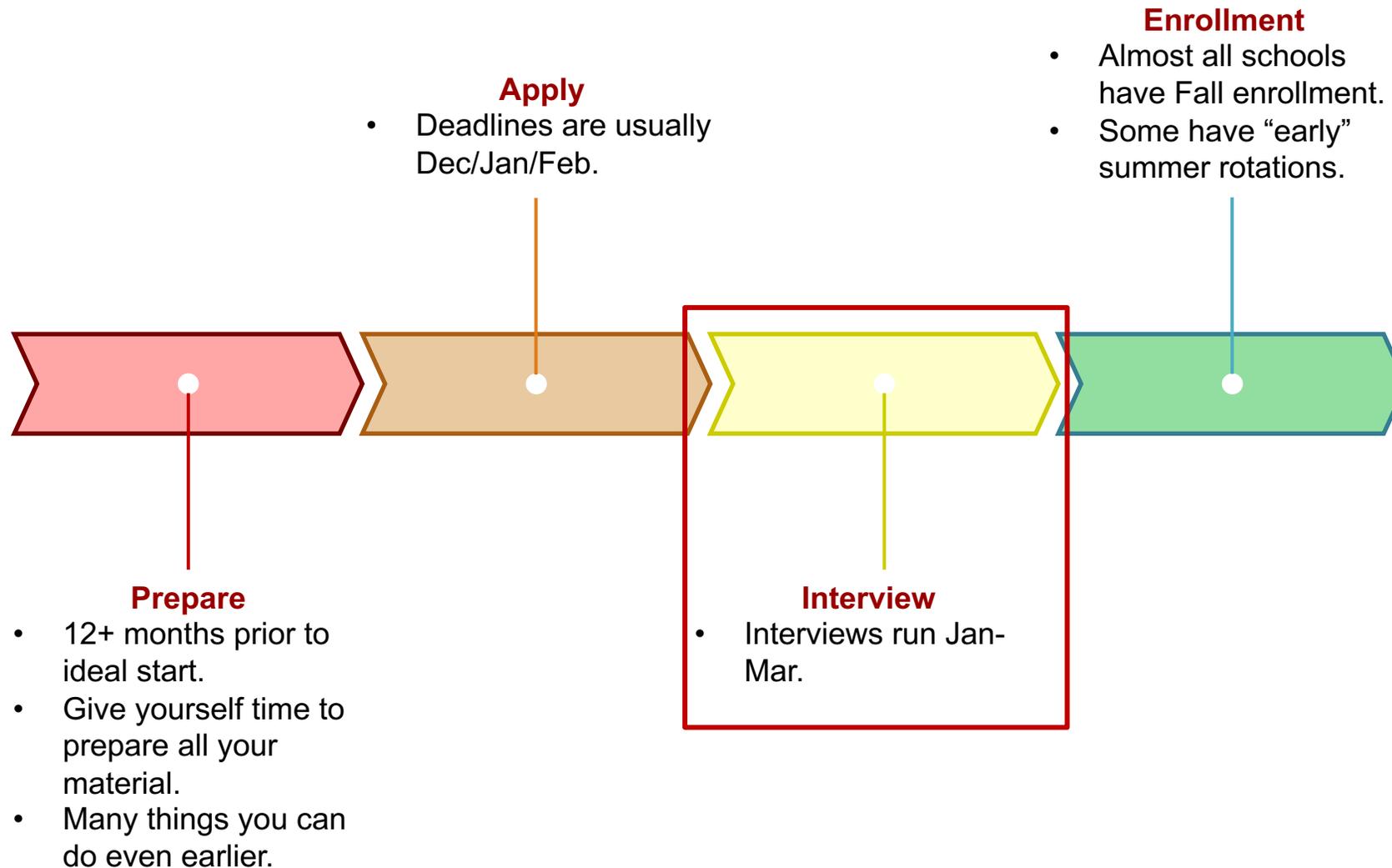
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# When should I apply?



# What to expect in a graduate school interview.



- Interviews usually consist of several things:
  - Meeting the professors.
  - Meeting with other students
  - Lunch, dinner, and excursions.
  - Some schools have you join seminars, workshops, orientations, etc.
  - Remember: **everything** is part of the interview, even dinners and outings.\*\*\*



# Interviewing with professors.



- Be prepared for:
  - What are your future career goals?
  - Why do you want to go to grad school? Why do you want to come to this specific school and program? What research interests do you have?
  - What experience – if any – do you have that can assist you in succeeding in this school?
  - What is your relevant background, e.g. in coursework?
  - What difficult projects or experiences have you faced and how did you overcome them?
  - How well do you work with people?
  - Talk about your research?\*\*\*\*\*
  - Some PIs will want to talk a lot about research – be prepared!
  - Some PIs can be a little mean and test your scientific knowledge. This is rare, but it does happen.
- What you can ask:
  - What is the dynamics of the school – social, personal, work, competitive/supportive?
  - How is the coursework?
  - Career trajectory – what % go in what direction, and what is the general feeling of someone pursuing that track?
  - Are there any concerns that you can address in person?
  - If you can: ask about their research! This will give you bonus points.

# Thank you emails.



- Politeness is a rare quality.
- Send a thank you email to everyone.
  - Make it personable!
  - Highlight unique connections.
  - Don't reuse a generic email.
- To the PI/Chair/Director: can reiterate your strengths and why you're a good fit.



# Congratulations!!!

