

A Practical Guide to Graduate School Interviewing for Historically Excluded Individuals.

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Abstract:

Completing graduate school applications can be a challenging process but navigating subsequent graduate school interviews can be just as difficult. Historically excluded students may especially feel underprepared. Here, we provide a practical guide covering all aspects of the interview process to help students prepare to make a strong positive impression during the interview.

Introduction:

Congratulations! By submitting graduate school applications, you have reached a major milestone on your path to an advanced STEM degree. In 2021, there were ~ 2.4 million applicants to graduate programs, representing an 8.7% increase over 2020 (1). For historically excluded individuals, the % change in enrollment from 2020 to 2021 was ~9%, suggesting at minimum, they represent 9% of all applicants (1). With rising applicants, distinguishing yourself during the interview will be key to gaining admittance into your dream graduate program. Here, we provide practical tools to help you prepare for and navigate successful graduate school interviewing. Historically excluded individuals face many challenges that prevent them from obtaining higher education, including the lack of strong institutional commitments to mentoring, diversity, inclusion, and equity (2–4). As such, there is a dearth of Black and Latin scholars in STEM disciplines, including cardiovascular physiology. Thus, while this guide is intended to help them, it is relevant to all applicants.

Preparing for the Interview:

After applications are submitted in November and December, it typically takes 2 – 4 weeks for a committee to evaluate and select candidates to invite for interviews. Hence, interviews usually occur during the following January – March. Use the intervening weeks between the interview request and the actual visit to prepare effectively. What separates ‘good’ interviewees from ‘exceptional interviewees’ is the level of preparation and specifically the ability to discuss one’s research interests and prior research confidently and clearly. Thus, it is critical that you adequately prepare for your interview by researching the graduate program and practicing your answers to anticipated questions.

Research Potential Mentors: Principal Investigators (PIs) are the faculty mentors and the individuals that formulate research programs and define the research portfolio of their respective departments. They are the most important people to research. Most labs have a website where you can learn about their research interests and ongoing projects. Ultimately, you will conduct your graduate studies in one of the labs so you will establish a very close relationship with the PI who will serve as both a scientific advisor and a mentor to shape your career.

Therefore, for each interview, you want to be familiar with several different PIs and their research areas and be able to participate in high-level and broad discussions (**Fig. 1**). You want to be more knowledgeable about the research of PIs/labs that you are interested in joining so you can discuss how your experience and interests may complement their existing research program. If you are only interested in working with one PI, it is still important to do research on other PIs as this will help relay your general knowledge base of science, collegiality, and enthusiasm for science and the graduate program to your interviewers.

Collecting all this information can be daunting, thus, we recommend organizing all your research into one notebook. Highlight only important information and keep your notes concise and focused on the big picture. It is beneficial to print out the research page which summarizes research interests or projects (if available), and/or 1-2 abstracts from recent publications for

95 faculty that you may be meeting or are interested in working with. Take notes on how your
96 interests relate as well as scientific or other questions concerning their work. If you have an
97 interest in their work but do not fully understand a concept or an aspect of the science, please
98 raise those questions during the interview as it can help facilitate discussion as well as reflect
99 your authenticity and perspective.

100 **Research the University, Department, and Program:** It is also important to understand
101 the institutional and departmental landscape (**Fig. 1**). Look into your interviewing department
102 and program websites for their self-assessments: Do they describe their department as basic
103 research driven or translational? What are their research priorities? What university-specific
104 initiatives, institutes, and centers define their research landscape? What is new or what has been
105 long established? It may be of particular interest for historically excluded candidates to learn
106 about the university's diversity, equity, and inclusion (DEI) commitment and resources, such as
107 their office of inclusion and the faculty and staff that serve there. This is great information to
108 have both for demonstrating your scientific and professional preparedness, as well as, for helping
109 you make your decision.

110 **Practice Interviewing:** The formal interview will center on candid one-on-one
111 discussions between you and several interviewers with the goal of understanding you as a human
112 being and your potential and fit as a future graduate student. Thus, the most valuable and
113 practical way to prepare for an interview is to conduct mock, or practice interviews with other
114 people (**Fig. 1**). Lean into your network and identify mentors, colleagues, or friends with
115 different levels of expertise and familiarity to help you practice answering the example questions
116 and prompts provided in Table 1. These questions cover 4 key areas that you may be asked
117 during your interview. When practicing, be honest and authentic with your answers. Do not
118 misrepresent yourself. It is likely that the person interviewing you is familiar with your
119 application and the information you provide should augment and be complimentary to the
120 information in your application. While admitting you are not sure of something is acceptable,
121 making things up should never happen. Answer questions in detail and cite specific and relevant
122 examples when appropriate. After each mock interview, get feedback from your practice partner
123 and incorporate any lessons learned into your discussion strategy. Finally, consider recording
124 yourself during mock interviews to help you identify areas where you can be more articulate and
125 specific, or even to check your non-verbal cues. Helpful resources that can aid in uncovering
126 your motivations for pursuing graduate training as well as identify your strengths and
127 weaknesses are provided in Table 4.

128 **Seek guidance from mentors:** As detailed by Marshall *et al.*, mentors are essential in
129 preparing one for future scholastic or professional ventures (5). Effective mentors are able to
130 equip mentees with communication skills that relate to both expert and lay audiences that will
131 help guide them through the interview (5). This is a time to utilize your mentoring network; to
132 give you critical feedback, ask tough questions, and prepare you for a successful interview.

133 **Prepare for everything:** Although, the interview should not have inappropriate or
134 uncomfortable questions, should these types of questions arise unintentionally or from well-
135 meaning inquiry or discussion, be prepared to respond courteously and professionally. It is best
136 to not be reactive but kindly respond in a way that does not cause conflict and that you are
137 uncomfortable sharing such information. Examples of inappropriate questions include those that
138 focus on a person's race, creed, religion, gender, sexual orientation, or marital status (Table 2).

During the Interview: The main purpose of the interview is to assess if you can effectively communicate your previous research experiences; convey your curiosity, enthusiasm, and competence; and learn about how the graduate school program would support and prepare you for a successful career. Though interviews may be intimidating, do not forget that the evaluation is mutual: you too are assessing whether the opportunity to enter a particular program would be a worthwhile endeavor for you.

Anticipate the Format: Interviews may take multiple formats including phone or virtual sessions, as well as in-person visits. For virtual interviews, which is a common first step, securing a quiet space with a reliable internet connection is vital (6). Ensure you have sufficient lighting, an adequate distance from the camera, and an appropriate background.

Navigating In-person Visits: In-person interviews are critical for you to gain a better sense of whether the current faculty and students in the graduate program, the program itself, and the city, will be a good fit for you. An in-person visit will typically take place over the course of three days. The first and third days are mostly reserved for traveling but may include a scheduled welcome dinner (Day 1) and a farewell breakfast (Day 3) – usually these meals occur with the other prospective students that are visiting and sometimes current graduate students as well. A typical itinerary on Day 2 may include one-on-one meetings with different faculty members, campus and area tours, facility tours, and tours of potential graduate housing. There may also be some unstructured socialization with current students and postdocs.

Ask Questions: The interview may be the only time you formally connect with individuals in a particular program, so it is important for you to get practical and relevant information to help make your decision. Ask current students about living expenses, the usefulness of required courses, qualifying exams, and their future career goals. Ask faculty about their expectations of students, funding opportunities for potential students, and the current jobs of their previous trainees. These and other sample questions are listed in Table 3. Responses to these questions can reveal the well-being and support you would receive as a student in the program or working with a particular mentor.

Maintain professionalism: For in-person interviews, remember that all events are considered part of the interview and your evaluation is based on your overall interactions. We recommend you dress professionally and appropriately for the events of the interview, but you are also free to dress in a way that reflects your unique identity. It is particularly important to remember your professionalism during social events in which there is often drinking. When it comes to consuming alcoholic beverages: use your best judgment, consume with care, and remember that the interview is not a party.

After the Interview:

Although not required, it is good practice to send a thank you note within a week of interviewing. You may consider sending a handwritten note but be aware of postage time. Remember, a quick personalized email will go a long way. Here, social media may also be utilized to connect with individuals who left a lasting impression and allow you to remain in touch for potential collaborations regardless of if you are admitted to the program (7). However, before connecting with any faculty, make sure that your online presence represents you in the best light (6, 7). A summary of the information to guide you through the entire interview process is outlined in Figure 1.

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Table 1: Practice questions candidates should be prepared to discuss.

Personal Characteristics	Academic Experiences & Skills	Problem Solving & Leadership Skills	Goals
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● Tell me about yourself. ● What are your biggest strengths? ● Describe your weaknesses. ● What hobbies do you enjoy? ● How would your professors describe you? ● Why are you interested in this program?	● What was your favorite undergraduate course and why? ● Describe your current research project. ● Why did you choose to apply to our program? ● How have your previous experiences prepared you for graduate study in our program? ● Tell me about your experience in the field. ● What are your future research interests and which faculty are you interested in working with?	● Can you describe a problem you have had to overcome and how you resolved it? ● How do you manage stress? Can you provide an example? ● How do you manage your time? Can you provide an example? ● Describe a time you took the lead on a project. ● Describe your leadership and outreach experience. ● How do you handle conflict with others?	● Why do you need a Ph.D. to accomplish your career goals? ● What drives your interest in science? ● What excites you about a career in science? ● How does our specific graduate school fit into your long-term career plans? ● What would the crowning achievement of your career be? ● What are your career goals in 5 years and in 10 years?
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Table 2: Examples of inappropriate questions and how to respond to them.

Examples of Inappropriate Questions	Examples of Responses to Inappropriate Questions
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| <ul style="list-style-type: none"> ● What is your religion and will it impact your work? ● Why are you considering graduate school at your age? ● What is your sexual orientation? ● Are you married and do you have kids? Will your family want to move here? ● Do you think that you have a better chance at getting into this graduate program because of affirmative action? ● Are you a US citizen and will you be able to compete for certain grants? | <ul style="list-style-type: none"> ● “My candidacy should not be judged on this basis, which is not a determinant of my potential success” ● “I do not feel comfortable answering this question.” ● “I do not think this question is necessary to evaluate my candidacy.” |
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213 **Table 3:** Example questions to ask potential graduate schools, PIs, and previous and current
 214 students.

Questions to Ask Departmental/Program Interviewers	Questions to Ask Potential Labs/PIs	Questions You Should Ask Previous and Current Students
• What is the format of your qualifying exam and what is the general success rate? • How are mentoring and advising relationships established? Are there training sessions for mentors each year to update on how best to mentor students? • Where are recent alumni employed? • How is the university and/or department engaged in fostering diversity and inclusivity? • How much coursework is required for the Ph.D. program? Are we allowed to take course work from a different program? • Do most students live near campus? What is it like to live in this area as a graduate student? Are there any current students you can connect me with? • What is the average time to graduate in this department/program?	• What opportunities do you offer regarding career development? • What tools are used to formalize and address individual career and professional development goals? • Generally, what are the publication expectations for students in your lab? • What is your mentoring philosophy? • What is your mentoring and advising format within the lab? Does the PI do most the advising and training or are postdocs and students involved? • How do you support trainees with non-academic career goals? • Do you have any internal funding opportunities? Do you have any internships that lab members may participate in? • What is your balance between mentoring and research-focused meetings?	• What is the qualifying exam like? • Are the classes relevant and helpful to your thesis research? • Does the stipend enable you to live alone in this city or live comfortably? • Does student health and the health insurance meet your needs? • What do you do for fun? • Does your lab or the graduate school support you in attending research conferences? • How did you select your mentor and committee members? • Is there a career center here and do they support students non-traditional (i.e. non-academic) routes? • How are student concerns and conflicts handled in the department/program and what resources are available for student mental health? • Does the graduate program permit leave for personal matters or health concerns? • Can I request your contact information if I have future questions?

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Table 4. Resources for self-assessments

Test Name	Brief Description
StrengthsFinder	Consists of 34 themes; Individuals are given a report that highlights their top five strengths, as well as strategies for applying them.
Hogan Personality Inventory	Evaluates an individual's personality traits, strengths, and weaknesses, using the Big Five traits; openness, conscientiousness, extraversion, agreeableness, and neuroticism
Keirsey Temperament Sorter	Categorizes individuals into four temperaments: Guardian, Artisan, Idealist, and Rational
DiSC	Measures an individual's behavioral style, with a focus on four main styles: dominance, influence, steadiness, and conscientiousness.
Enneagram	Categorizes individuals into nine distinct types, based on their core motivations and fears.
NEO Personality Inventory	Measures an individual's personality traits, including neuroticism, extraversion, openness, agreeableness, and conscientiousness.
HEXACO Personality Inventory	Measures six traits: honesty-humility, emotionality, extraversion, agreeableness, conscientiousness, and openness to experience.
Hogan Personality Assessment	Evaluates an individual's personality traits, values, and behaviors, using a range of personality scales.
VIA Character Strengths sment	Measures an individual's character strengths, identifying their top strengths and highlighting areas for development.
Self-Directed Search	Evaluates an individual's personality traits, interests, and values, providing career suggestions.

Figure 1: Overview of graduate school interviewing process and factors to consider when preparing.

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Pre-Interview Preparation

1. Research

- PIs and their work
- Department and program
- Resources

2. Practice

- Study example questions
- Mock interview
- Seek advice

Interview

1. Be Yourself!

- Meet PIs
- Meet students
- Discuss projects
- Explore the university and area

2. Ask Questions

- Come ready to discuss

Post-Interview Follow-Up

1. Express your Gratitude

- Email (or write) PIs, students and administrators with your appreciation