Welcome!

We will begin at 11:30 AM ET

For today’s Webinar you have two choices for Audio

via audio broadcast (Default)

The Audio Broadcast will connect automatically.

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Select the phone icon below the participants list. Connect using computer audio or dial-in using the specified phone number, event number, and your attendee ID. Phone lines will be muted.

Send questions to “All Panelists” via the Q&A panel. Please note that this Webinar will be recorded.

To watch the Webinar in full screen mode, look for the full screen icon at the upper right of your monitor. To go back to partial screen mode, pull down the tab at the top of your monitor and hit the “Return” icon.
Accepted!:
Tips On How to Get Into a Top Graduate Program
Mission:

Founded in 1961, the Society of Toxicology (SOT) is a professional and scholarly organization of scientists from academic institutions, government, and industry representing the great variety of scientists who practice toxicology in the US and abroad. The Society’s mission is to create a safer and healthier world by advancing the science and increasing the impact of toxicology.
Your Hosts/Moderators:

**Samantha Faber, PhD**  
Postdoctoral Researcher  
Curriculum in Toxicology and Environmental Medicine  
University of North Carolina at Chapel Hill  
Postdoc Rep, MSBSS

**Jessica Murray**  
Doctoral Candidate  
Pharmacology and Environmental Health  
University of Pennsylvania  
Grad Student Rep, MSBSS
Q&A

Send questions to “All Panelists” via the Q&A panel.
Accepted!:
Tips On How to Get Into a Top Graduate Program
Your Panelists:

Rebecca Fry, PhD  
Professor of Environmental Sciences and Engineering  
Director of Graduate Studies in CiTEM at the University of North Carolina at Chapel Hill  
rfry@email.unc.edu

Dana C. Dolinoy, PhD  
NSF International Chair of Environmental Health Sciences  
Professor of Environmental Health Sciences & Nutritional Sciences  
University of Michigan School of Public Health  
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Rebecca Fry, PhD
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Faculty website
THOUGHTS ON ENTERING GRAD SCHOOL

Rebecca Fry, Ph.D.
Carol Remmer Angle Distinguished Professor
Associate Chair, ESE
Director, Institute for Environmental Health Solutions
Director, Graduate Studies, CiTEM
Senior: Niharika Satya Palakodety

“What kind of candidates do graduate schools look for? Are you looking for students who come in with great grades and GPA or with a high GRE score?

Can you give examples of various types of students who have been successful in grad school?

When is student is in the limbo between choosing grad school and entering the work force, what would you tell the student to think about (particularly regarding grad school) before making that decision?

What is the most essential thing a student should know before entering graduate school?”
1st year Ph.D. candidate: Jeliyah Clark

- “I think it’s important to encourage students to network early with potential advisors and current students in the department (via email, conferences, etc).

- It was also important for me to ask both professors and students about efforts being made to increase diversity and inclusion, what resources were available to support first generation grad students, and whether the program was supportive of students exploring careers outside of academia.

- I often compared the professors’ responses with the students’ as well to get a better picture of what my experience might be like”
1st year Ph.D. candidate: Lauren Eaves

- “Are funding decisions and application decisions separate?

- Do you need to do anything on top of the application for funding?

- Do you need to have a specific idea of the research you will carry out? If you do, is this binding?

- This is not a question, but more advice that I share with current seniors: if you’re interested in going to grad school at some point, talk to a professor who you really enjoyed their class/are interested in the work they do and ask about what it would take to end up in grad school in their field whether just after graduation or many years after.

- I’d generally also recommend doing the GRE earlier rather than later”
Some final thoughts

- Reach out to faculty: be specific and focused: read about their research and learn about what they do

- Ask for letter of support from people who know you well and will write an excellent letter

- Write a compelling statement of interest:
  - What do you love about science and why?
  - Where do you want this path to take you?
Dana C. Dolinoy, PhD

NSF International Chair of Environmental Health Sciences
Professor of Environmental Health Sciences & Nutritional Sciences
University of Michigan School of Public Health

Vice President, MSBSS
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Selecting the Best Degree Program For You & Crafting an Impactful Research Statement

Dana C. Dolinoy, MSc, PhD
NSF International Chair of Environmental Health Sciences
Professor of Environmental Health Sciences & Nutritional Sciences

UNIVERSITY OF MICHIGAN
School of Public Health

SOT Webinar on: Accepted! Tips on How to Get Into a Top Graduate Program
October 15, 2018

www.sph.umich.edu/ehs
What is Toxicology?

Toxicology studies the adverse effects of substances on organisms based on factors such as dose or way of exposure. Experts learn to interpret and communicate data to insure population safety. Careers in toxicology include work in forensics, healthcare, pharmaceutical science, etc.

www.sph.umich.edu/ehs
Where do you find Toxicology Graduate Degrees?

- Pharmacology Departments
- Schools of the Environment
- Schools of Public Health
- Interdepartmental Programs
- Umbrella Programs in Biomedical Sciences
- Track in MD/PhD or Pharm/PhD programs

www.sph.umich.edu/ehs
Example Degrees Offered

**Master of Public Health (MPH)**
- Focused on professional skills and knowledge
- Required (summer) internship component
- Designed to prepare for an EHS-based professional career
- Capstone projects

**Master of Science (MS)**
- Focused on research, less course requirements
- Required thesis project

**Doctor of Philosophy (PhD)**
- Research-focused, with high expectations for academic research achievement
- Some required courses
- Designed to prepare students for a research-based career in academia, government, industry or non-government sector
- Some but not all programs require a Master’s degree

**Combined Degrees**

[www.sph.umich.edu/ehs](http://www.sph.umich.edu/ehs)
MPH in Environmental Health Sciences (4 semesters)

Example Specializations:

Environ Quality, Sustainability & Health

Industrial Hygiene

Occupational and Environ Epidemiology

Toxicology

www.sph.umich.edu/ehs
Environmental Quality, Sustainability and Health

Water quality management

Exposure / risk / sustainability

Community air pollution

www.sph.umich.edu/ehs
Occupational and Environmental Epidemiology

- Causes of disease
- Risk of injury
- Community education
- Health outcomes

www.sph.umich.edu/ehs
Toxicology

- Analyze the hazard
- Assess mechanisms of action
- Study the chemical
- Health outcomes
- Limit the damage

The majority (but not all) of those who graduate with tox-related degrees work in industry.

www.sph.umich.edu/ehs
Example MPH (TX) Competencies

• *Explain basic principles of toxicology* and their application to public health

• *Apply rigorous design of toxicology studies* that incorporate principles of laboratory science

• *Predict toxic responses* of representatives from major classes of chemicals with respect to target organs, physiological processes, and molecular mechanisms of toxicity

• *Apply toxicology to risk assessment* of environmental and occupational hazards

• *Communicate toxicological findings* in writing using standards of peer-reviewed journals, including descriptions of design, results, and interpretation
What all MPH Students Do?

- Core Curriculum
- Interprofessional Practice
- Applied Practice Experience
- Integrated Learning Experience
- Concentration Curriculum
Master of Science (MSc)

Research-focused degree
- Research thesis instead of internship
- Fewer didactic credits, more research credits

Degree completion
- 3-4 semesters based on specializations and certificates

Preparation
- Talk to students working research settings
- Research faculty profiles

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Toxicology MS Competencies

• Explain basic principles of toxicology and their application to public health (Coursework)

• Perform effectively in teams to design, conduct, and interpret studies that assess toxicological mechanisms and adverse responses resulting from defined exposures to chemicals (Thesis)

• Explain how molecular mechanisms, biological processes, and chemical reactivity influence possible toxicant targets at the molecular, cellular, organ, and physiological level (Coursework)

• Apply toxicological knowledge and skills to the risk assessment of chemicals (Coursework)

• Demonstrate oral and written presentation skills by communicating results of an investigational toxicology project or study to other professionals and the public (Thesis)
MS Milestones

- Coursework
- Determining committee & Research
- Thesis Proposal
- Final Thesis and Oral Defense
Doctor of Philosophy (PhD)

Research-focused degree
- Research dissertation
- Highly rigorous quality and quantity of research

Degree completion
- 4-5 years based on research project

Preparation
- Talk to students and graduates working research settings
- Research faculty profiles
- Is a master’s degree required? Can it be obtained concurrently?
Toxicology PhD Competencies

• Apply basic principles of toxicology to public health (**Coursework**)

• Effectively lead teams in the design, conduct, analysis, and interpretation of toxicology studies for determining adverse responses resulting from defined exposures to chemicals (**Dissertation**)

• Apply understanding of molecular mechanisms, biological processes, and chemical reactivity to predict possible toxic responses of chemicals with respect to molecular, cellular, organ, and physiological targets (**Dissertation**)

• Apply toxicology to risk assessment of chemicals, including hazard identification, exposure assessment, dose-response assessment, risk characterization and risk management (**Coursework**)

• Exercise multi-modal communication skills to convey toxicological information and understanding verbally and in writing to peers, professionals in training, and the public (**Dissertation**)

ENVIRONMENTAL HEALTH SCIENCES
PhD Milestones

- Coursework
- Qualifying Examination
- Determining committee composition
- Preliminary Examination
- Qualifying Examination
- Final Defense
Selecting the Best Program for You!

Questions/Outcomes to Reflect Upon:

• Time-to-degree
• Are publications required? How many?
• Professional development activities
• Student organizations
• Does the program have a training grant? Who does it support?
• Teaching opportunities
• Geography vs. quality education (i.e., a finite training period)

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Graduate Certificates

Opportunity to develop knowledge and skills in a specific area in parallel with your degree

- Global Public Health
- Risk Science and Human Health
- Injury Science
- Industrial Ecology
- Environmental Justice
- Science, Technology, and Public Policy
MPH, MS and PhD Applications: Research Statement

• Proofread!
  • Don’t tell us why you want to attend the University of Minnesota
• Do reflect on your One Shining Moment(s) that led you to consider a graduate degree in Toxicological Research
  • Will help focus and personalize your essays
• Why Michigan? Why Toxicology?
• Explain any issues or gaps in your academic experience
• For PhD (and MS): Strongly encouraged to discuss specific projects or faculty you’re interested in learning more about

www.sph.umich.edu/ehs
Environmental Health Sciences

2015-2016 GRADUATE OUTCOMES REPORT

Postgraduate outcomes
- 13% Pursuing advanced degree
- 4% Actively seeking
- 9% Fellowship, internship, or residency
- 74% Employed

Entry-level salaries reported
$62,500
AVERAGE SALARY

96%
REPORTED BEING EITHER EMPLOYED, FINISHING FELLOWSHIPS & INTERNSHIPS, PURSUING ADVANCED DEGREE OR POST DOC WORK, OR NOT SEEKING EMPLOYMENT AS OF APRIL 1ST.

www.sph.umich.edu/ehs
Wishing You Success!!

Questions via the Q/A function at end of the webinar

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https://sites.google.com/a/umich.edu/dolinoy-lab/

SOT Undergraduate Student Resources
https://www.toxicology.org/groups/ug/affiliates.asp

SOT Graduate Student Resources
https://www.toxicology.org/groups/gs/graduates.asp

www.sph.umich.edu/ehs
Pamela Lein, PhD

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Recent Past Chair, Pharmacology and Toxicology Graduate Group
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Personal Statements:
What to do and what not to do

Pamela Lein, PhD
Professor and Chair, Molecular Biosciences
Recent Past Chair, Pharmacology and Toxicology Graduate Group
University of California, Davis
Why do I need to write a personal statement?

The personal statement provides the opportunity to provide the admissions committee with information about your abilities, strengths and interest in their program that are not apparent from the rest of the application.
The most important information to convey in the personal statement

• A sense of who you are, what you have done and where you are going
• Why you are interested in the field of toxicology
• Why you are interested in this particular graduate program

A compelling personal statement will motivate an admissions committee member to advocate on your behalf even in the face of other perceived weaknesses

Conversely, a poorly written personal statement can sink an otherwise outstanding application!
Personal statements should be uniquely crafted for each graduate program to which you are applying.
Preparation for writing your personal statement

• View each graduate program as unique, and tailor your personal statement appropriately

• Research each program prior to finalizing your personal statement
  ➢ Review program requirements
  ➢ Review faculty research interests
  ➢ If possible, talk with current graduate students and/or program professors to gain a good understanding of program expectations

• Identify program-specific questions or topics to address

• Identify and clearly articulate your reasons and motivation for applying to graduate school
Topics to address in your personal statement

• Did a specific experience influence your decision to pursue graduate training in toxicology?

• What excites you about research training in toxicology?

• What is your understanding of the opportunities in the field of toxicology?

• What skills, training or experiences have you obtained that illustrate your understanding of the expectations of advanced training?
  
  ➢ Provide specific examples, e.g., internships, summer fellowships, undergraduate research experiences, work experiences, training in unique technologies or special coursework
Topics to address in your personal statement

• How are you prepared to succeed in graduate school?
  • Recognize and acknowledge the challenges of graduate school
  • Provide concrete examples that demonstrate your ability to meet these challenges

• Is there a weakness or gap in your application? If yes, address it head on
  • Describe circumstances or obstacles that you have had to overcome but be careful to not make it appear that you are making excuses
  • Address what you have done or plan to do to overcome this weakness or gap

An honest appraisal of yourself as a candidate for graduate education is appreciated by the admissions committee, who will also be reading letters from your references
Potential Organization of the Personal Statement

1. Introduce yourself – narrative, anecdotes, intellectual passion, unique attributes, commitment

2. Provide specific examples (experiences, training, coursework), address gaps, and illustrate understanding/interest in toxicology

3. Describe plans for excellence at the particular institution and for your future
What to avoid in your personal statement

**Pitfall**

- Using clichés or vague statements
- Trying to include humor
- Reiterating your CV/resume (avoid long lists of awards or honors)
- Overly formal/thesaurus-type writing style
- Typos, awkward grammar, addressing to the wrong graduate program

**Alternative approach**

- Use specific examples or illustrations
- OK to show some personality but be genuine and focus on you as a future colleague
- Focus on key experiences that demonstrate specific qualifications
- Use your own voice
- Proofread multiple times, ask a current professor to review a near final draft
Write, review, revise, review again, revise

• Look at each word/phrase/sentence and assess its value

• Is the ‘voice’ consistent and appropriate for you as a professional?

• Does the statement convey confidence, enthusiasm and motivation?

• Get feedback from professionals!
  • Undergraduate professors
  • University writing labs/career centers
  • Job supervisors
Other General Tips

- Use your experiences as a learner and a scholar
- Do not overpromise or exaggerate
- Do not plagiarize
- It is OK to ask a program director what their admissions committee is looking for in the personal statement

✓ Be concise
✓ Be organized
✓ Write clearly
✓ Be sincere
✓ Convey confidence
✓ Be memorable
Feel free to email questions to me

Pamela Lein
pjlein@ucdavis.edu

Wishing you much success in graduate school!
Q&A

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Want More?

◆ Become an Undergraduate Affiliate of the Society of Toxicology
  ❖ Quick and easy application
  ❖ It’s FREE!
  ❖ Access to recorded SOT webinars on scientific and career development topics
  ❖ Eligibility for travel and poster awards at SOT Regional Chapter meetings
  ❖ Full day of undergraduate programs at the SOT Annual Meeting
  ❖ https://www.toxicology.org/groups/ug/affiliatesform.asp
Thank you for joining us!