“Why am I muted?”
Don’t worry. Everyone is muted except the presenter and host.
Thank you and enjoy the show.

Contact ACS Webinars® at acswebinars@acs.org
Check out the ACS Webinar Library!
An ACS member exclusive benefit

Hundreds of presentations from the best and brightest minds that chemistry has to offer are available to you on-demand. The Library is divided into 6 different sections to help you more easily find what you are searching.

Professional Development
Learn how to write better abstracts, deliver more engaging presentations, and network to your next dream job. Brush up on your soft skills and take a new career path by mastering what can not be taught in the lab.

Technology & Innovation
From renewable fuels to creating the materials for the technology of tomorrow, chemistry plays a pivotal role in advancing our world. Meet the chemists that are building a better world and see how their science is making it happen.

Drug Design and Delivery
The Drug Design Delivery Series has built a collection of the top minds in the field to explain the mechanics of drug discovery. Discover the latest research, receive an overview on different fields of study, and gain insight on how to possibly overcome your own mad scientist roadblocks.

Culinary Chemistry
Why does food taste better when it is grilled or what molecular compounds make a great wine? Discover the delectable science of your favorite food and drink and don't forget to come back for a second helping.

Popular Chemistry
Feeling burdened by all that molecular weight? Listen to experts explain on the amazing side of currently hot science topics. Discover the chemistry of rockets, how viruses have affected human history, or the molecular breakdown of a hangover.

Business & Entrepreneurship
How do ideas make it from the lab to the real world? Discover the ins and outs of the chemical industry whether you are looking to start a business or desire a priceless industry-wide perspective.

Learn from the best and brightest minds in chemistry! Hundreds of webinars on diverse topics presented by experts in the chemical sciences and enterprise.

Edited Recordings are an exclusive ACS member benefit and are made available once the recording has been edited and posted.

Live Broadcasts of ACS Webinars® continue to be available to the general public several times a week generally on Wednesdays and Thursdays from 2-3pm ET!

A collection of the best recordings from the ACS Webinars Library will occasionally be rebroadcast to highlight the value of the content.
From ACS Industry Member Programs

✦ Industry Matters Newsletter
ACS Member-only weekly newsletter with exclusive interviews with industry leaders and insights to advance your career.
Preview & Subscribe: acs.org/indnews

✦ Connect
Connect, collaborate, and stay informed about the trends leading chemical innovation
Join: bit.ly/ACSiinnovationhub
ACS Career Navigator: Your Home for Career Services

Whether you are just starting your journey, transitioning jobs, or looking to brush up or learn new skills, the ACS Career Navigator has the resources to point you in the right direction.

We have a collection of career resources to support you during this global pandemic:

Visit [www.ACS.org/COVID19-Network](http://www.ACS.org/COVID19-Network) to learn more!

ACS Department of Diversity Programs

Advancing ACS’s Core Value of Diversity, Inclusion & Respect

We believe in the strength of diversity in all its forms, because inclusion of and respect for diverse people, experiences, and ideas lead to superior solutions to world challenges and advances chemistry as a global, multidisciplinary science.

Contact Us:
[https://app.suggestionox.com/r/DI_R](https://app.suggestionox.com/r/DI_R)
Diversity@acs.org

@ACSDiversity

[acsvoices.podbean.com/](http://acsvoices.podbean.com/)

www.acs.org/diversity
Grateful for your chemistry career?

Pay it forward with a donation to the ACS Scholars Program today!

www.donate.acs.org/scholars

ACS Scholars Endowment Founder Joe Vacca, retired Vice President of Chemistry, Merck & Co., meets with his 2018 ACS Scholar Johanna Masterson, now a grad student at Princeton University.

“Chemistry has been good to me...so I wanted to make a significant gift to provide that opportunity to others.”

ACS Webinars

The State of Science

On the Global Perception of Science and the Need for STEM Advocacy

Date: Thursday, February 4, 2021 @ 2:30pm ET
Speaker: Joyshine Seth, Ph.D.
Moderator: Glenn T. Seaborg, American Chemical Society

Register for Free

Creating an Inclusive and Resilient Future in Chemistry Education

Date: Wednesday, February 10, 2021 @ 2:30pm ET
Speakers: Anthony D. Perry, Long Island University and Understanding Interventions; Michèle Offord, Pennsylvania State University and NSF; Undergraduate Programs / Students, University of Texas at El Paso
Moderator: Zeljka Wilson-Kennedy, Louisiana State University
Organizer: Lucy Wורbeit, Spelman College

Register for Free

The Power of Hydrogen

From First Element to Green Energy Catalyst

Date: Thursday, February 11, 2021 @ 1:30pm ET
Speaker: Kay Karp, Indium Corporation Technology
Moderator: Bill Tiszynska, The Uhr Group LLC

Register for Free

www.acs.org/acswebinars
ACS Bridge Program

Are you thinking of Grad School?

If you are from an underrepresented racial or ethnic group, we want to empower you to get your graduate degree!

The ACS Bridge Program offers:

• A FREE common application that will highlight your achievements to participating Bridge Departments
• Resources to help write competitive grad school applications and connect you with mentors, students, and industry partners!

Learn more and apply at www.acs.org/bridge
Email us at bridge@acs.org

THIS ACS WEBINAR WILL BEGIN SHORTLY...
SPECIAL OFFER: 50% Off Membership Dues for ACS on Campus Attendees (first time joins)
Tips for Applying to Graduate School in Chemistry

Presentation slides are available now! The edited recording will be made available as soon as possible.

www.acs.org/acswebinars

This ACS Webinar is co-produced with ACS on Campus.

What is Graduate School About?
WHAT IS GRADUATE SCHOOL ABOUT?

A Marathon, Not a Sprint

Creating tangible short-term goals helps you move forward, and a strong support team provides necessary boosts.

Source: Liz Hozman, 7 Ways Earning a Ph.D. is Like Training for a Marathon, Inside Higher Ed, https://www.insidehighered.com/blogs/gradhacker/7-ways-earning-phd-training-marathon

WHAT IS GRADUATE SCHOOL ABOUT?

Your Development in Graduate School

- Develops you as a scientific thinker
- Gives you practical hands-on lab skills
- Grows your interdisciplinary knowledge
- Trains your mind
- Strengthens your soft skills
WHAT IS GRADUATE SCHOOL ABOUT?

Swiss Army Knife
Skills developed
- Lab skills
- Communication (oral and written)
- Teamwork and collaborative skills
- Research skills
- Problem-solving skills
- Independence and perseverance
- Networking, relationship development
- Time management and prioritization
- Work-life balance

Undergraduate and Graduate School Differences

Undergraduate Focus
- Broad courses across various subjects - science, math, humanities, arts
- Focus all four years is on coursework, play the credit game
- GPA is the key measure of success and can impact your next steps
- Complete a number of course credits and can finish once you complete credits for a degree
- Motivation driven by professors, credits

Graduate Focus
- Coursework is typically all chemistry specific
- Focus changes after year one or two to research, committee evaluations
- Key measure of success is research results (GPA must be above minimum)
- Individual pace - results determine the pace and progress, and finishing times vary student to student
- Motivation is self-driven
Common Degree and Career Paths

1. M.A. / M.S.
   Common careers:
   - Lab support
   - Analysis
   - K-12 education

2. P.S.M.
   Common careers:
   - Management
   - Intellectual property
   - Entrepreneurship

3. Ph.D.
   Common careers:
   - Academic research
   - Industry
   - Government
   - Postsecondary education

4. Other Specialties
   - Ph.D./M.D.
   - J.D. (Patent)
   - M.B.A.
   - Ed.D.
Timeframe and Funding

P.S.M. Professional Science Masters
- Student supported costs
- Assistance may be available

M.A./M.S. Masters Programs
- Student supported costs
- Assistance may be available

Ph.D. Doctoral Programs
- Tuition/fees most often waived and
- Teaching assistant, research assistant, or other resources may be available

Which of the following are graduate degrees in chemistry? (select all that apply)

- Dyes, pigments, and inks
- Neurochemistry
- Sensors
- Science policy
- Energy sciences

* If your answer differs greatly from the choices above tell us in the chat!
## GRADUATE DEGREE OPTIONS IN CHEMISTRY

**The Graduate Chemistry Landscape is Broad**

<table>
<thead>
<tr>
<th>Agricultural sciences</th>
<th>Environmental sciences</th>
<th>Neurochemistry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analytical sciences</td>
<td>Food sciences</td>
<td>Pharmaceutical science</td>
</tr>
<tr>
<td>Archaeology</td>
<td>Forensic sciences</td>
<td>Pharmacology</td>
</tr>
<tr>
<td>Atmospheric sciences</td>
<td>Formulation chemistry</td>
<td>Physical chemistry</td>
</tr>
<tr>
<td>Biochemistry</td>
<td>Geological sciences</td>
<td>Photonics</td>
</tr>
<tr>
<td>Biological</td>
<td>Health and safety</td>
<td>Process chemistry</td>
</tr>
<tr>
<td>Chemical education</td>
<td>Industrial chemistry</td>
<td>Proteomes</td>
</tr>
<tr>
<td>Chemical engineering</td>
<td>Inorganics</td>
<td>Quality assurance</td>
</tr>
<tr>
<td>Chemical information</td>
<td>Macromolecular</td>
<td>Quality control</td>
</tr>
<tr>
<td>Colloidal sciences</td>
<td>Materials science</td>
<td>Regulatory affairs</td>
</tr>
<tr>
<td>Computational chemistry</td>
<td>Medicinal chemistry</td>
<td>Science policy</td>
</tr>
<tr>
<td>Cosmetic sciences</td>
<td>Natural products</td>
<td>Sensors</td>
</tr>
<tr>
<td>Crystallography</td>
<td>Organic synthesis</td>
<td>Sustainability</td>
</tr>
<tr>
<td>Dyes, pigments, and inks</td>
<td>Organometallics</td>
<td>Theoretical</td>
</tr>
<tr>
<td>Earth and space science</td>
<td>Nanosciences</td>
<td>Toxicology</td>
</tr>
<tr>
<td>Energy sciences</td>
<td></td>
<td>Water chemist</td>
</tr>
</tbody>
</table>

---

### How to Prepare for Graduate School in Chemistry
HOW TO PREPARE FOR GRADUATE SCHOOL IN CHEMISTRY

Personal Preparation

Honest self-reflection

- How does graduate school fit into your life?
- How does graduate school fit into career goals?
- Examine your personal motivations.
- Do you like research?
- Do you have a good reason to go to graduate school?

Coursework Preparation

Checklist for undergraduate chemistry courses

- 2 semesters general chemistry with lab
- 2 semesters organic chemistry with lab
- 2 semesters physical chemistry with lab
- 1-2 semesters analytical chemistry with lab
- 1-2 semesters inorganic chemistry with lab
- 1 semester biochemistry
Undergraduate Research

Why complete undergraduate research?

- Note: research experience may not be required, program dependent
- Gives you experience and insight into graduate school and the research process
- Lets you explore research in an area without long-term commitment
- Provides you with a tangible item to add to your graduate school application (e.g., a scientific finding, a new or more polished skillset, or new experience working with a team of PhDs)
- Gives you an opportunity to build an independent relationship with a PI who might be a candidate to write your recommendation letter

Other Skills

- Online research skills
- Oral and written presentation skills
- Software proficiency

LOGISTICS OF GRADUATE SCHOOL

Coursework in Graduate School

Graduate School Coursework

- Proficiency exams are usually required in first year to assess foundational knowledge
- Your course of studies builds on undergraduate knowledge
- Courses frequently require extensive literature research
- Assignments often necessitate specialized software, e.g., ChemDraw or data graphing tools
- Deliverables will test and hone communication skills
LOGISTICS OF GRADUATE SCHOOL

Research

Research in graduate school

- Majority of your time will be spent on research
- May work collaboratively with another graduate student or postdoc, or may work solo under a PI
- New steps initiated by a hypothesis
- Daily small steps progress your research
- Characterized by failures, many, many steps you take will not succeed
- Patience, daily diligence, and perseverance key
- Target is to complete an aspect of a project or several new findings, and publish your findings

Teaching

What does teaching mean for graduate students

- Many graduate students in chemistry serve at least one year in a teaching assistant role; in return, you receive a stipend for living expenses
- Some universities provide training for teaching assistants, others do not
- May involve teaching in a classroom, helping a professor grade assignments, or teaching in a laboratory setting
- Builds teaching skills, methodological research skills, and communication skills
Considerations for International Experience

International student’s checklist

- Be sure you will enjoy living where the school is located and consider:
  - Culture, food, religion, language, travel methods, environment, weather
  - Your support system in new country
- Check with school directly for differences in academics:
  - Will your coursework transfer one to one?
  - Do you have the right courses and credits?
- Be aware of additional application requirements:
  - In some cases, you apply to a school, at others, a professor’s group
  - TOEFL, GRE, Student Visa process
### WHAT IS GRADUATE SCHOOL ABOUT?

#### Deciding if Graduate School is Right for You

<table>
<thead>
<tr>
<th>Questions</th>
<th>Weight or importance</th>
<th>No Graduate School</th>
<th>P.S.M.</th>
<th>M.A./ M.S.</th>
<th>Ph.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do I really want to go to graduate school?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Which graduate school does my desired career path require?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Do I want the higher salary or higher position?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Am I passionate about chemistry?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Can I afford to go to graduate school with the support provided?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Knowing what you do now about grad school are you interested in?
(select all that apply)

- P.S.M. (Professional Science Masters)
- M.A. / M.S. (Masters Programs)
- Ph.D. (Doctoral Programs)
- No Graduate School
- Not applicable

* If your answer differs greatly from the choices above tell us in the chat!
Ten Tips

Considering a graduate degree in chemistry?
There are a number of factors to assess before and during the application process. Follow these ten tips to successfully plan for and get accepted to pursue a graduate degree in chemistry that positions you for success on your career path.

1. Keep it professional and respectful.

2. Don’t take it personally.
**TIPS FOR APPLYING TO GRADUATE SCHOOL IN CHEMISTRY**

**Ten Tips**

**Considering a graduate degree in chemistry?**

There are a number of factors to assess before and during the application process. Follow these ten tips to successfully plan for and get accepted to pursue a graduate degree in chemistry that positions you for success on your career path.

---

**Focus on the research, not the grammar.**

---

**TIPS FOR APPLYING TO GRADUATE SCHOOL IN CHEMISTRY**

**Ten Tips**

**Considering a graduate degree in chemistry?**

There are a number of factors to assess before and during the application process. Follow these ten tips to successfully plan for and get accepted to pursue a graduate degree in chemistry that positions you for success on your career path.

---

**Be timely, but also take your time.**
Ten Tips

Considering a graduate degree in chemistry?
There are a number of factors to assess before and during the application process. Follow these ten tips to successfully plan for and get accepted to pursue a graduate degree in chemistry that positions you for success on your career path.

Be upfront about any conflicts of interest.

Your approach should be both careful, analytical, and balanced.
TIPS FOR APPLYING TO GRADUATE SCHOOL IN CHEMISTRY

Ten Tips

Considering a graduate degree in chemistry?

There are a number of factors to assess before and during the application process. Follow these ten tips to successfully plan for and get accepted to pursue a graduate degree in chemistry that positions you for success on your career path.

7. Stay organized.

8. Check your bias.
Considering a graduate degree in chemistry?

There are a number of factors to assess before and during the application process. Follow these ten tips to successfully plan for and get accepted to pursue a graduate degree in chemistry that positions you for success on your career path.
Additional Key Resources

Where can I find help?
Planning for Graduate Work in Chemistry
https://www.acs.org/content/acs/en/education/students/graduate/gradschool.html

InChemistry, the ACS Student Member Magazine
https://inchemistry.acs.org/content/inchemistry/en/grad-school/applying-to-grad-school.html

Planning for Graduate Work in Chemistry

Successfully preparing for, finding, and entering a graduate program requires an investment of time and effort. Centered to this process is the ongoing consideration of your goals, strengths, and opportunities.

The resources in your network will be your primary information, advice, and support. Remember these great resources for networking when looking for undergraduate advisors, graduate schools, and graduate school students, as well as graduate programming at ACS meetings.

Preparing as an Undergraduate

Prior to the process, focus on building the knowledge, skills, and network you need to be successful in graduate school and your career.

Common questions to consider throughout each phase of the process

- Why are you pursuing a graduate degree?
- What do you want to contribute to the chemical sciences?
- What graduate school experiences will benefit you?
I applied to grad school—now what?

bit.ly/iappliedweb

February 8
5:00 - 6:30 pm EST

ASK YOUR QUESTIONS AND MAKE YOUR COMMENTS IN THE QUESTIONS PANEL NOW!

SPECIAL OFFER: 50% Off Membership Dues for ACS on Campus Attendees (first time joins)

Learn from the best and brightest minds in chemistry! Hundreds of webinars on diverse topics presented by experts in the chemical sciences and enterprise.

**Edited Recordings** are an exclusive ACS member benefit and are made available once the recording has been edited and posted.

**Live Broadcasts** of ACS Webinars® continue to be available to the general public several times a week generally on Wednesdays and Thursdays from 2-3pm ET!

**A collection of the best recordings** from the ACS Webinars Library will occasionally be rebroadcast to highlight the value of the content.

[www.acs.org/acswebinars](http://www.acs.org/acswebinars)
ACS Webinars® does not endorse any products or services. The views expressed in this presentation are those of the presenter and do not necessarily reflect the views or policies of the American Chemical Society.

Contact ACS Webinars® at acswebinars@acs.org

www.acs.org/acswebinars