

## **Resources for early-career scientists**

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This document contains information on resources for career and professional development, job listings, scholarships, fellowships, internships, early-career awards, grants, scientific organizations for women and minorities, better scientific writing and presentations, and related topics for students and early-career scientists in the geosciences, especially the atmospheric sciences, although much of the information is applicable to a wider audience. I have checked each of the links and each is valid as of June, 2024. This is by no means a comprehensive listing, and a web search will provide many other sites.

Additional information, including information on proposal writing and how the major agencies fund research in atmospheric chemistry, is available for download from Dropbox at <https://www.dropbox.com/sh/69eunsa8yw32t8/AABIyfZmMyAnB09JOyexGfCna?dl=0> or from Microsoft OneDrive at <https://1drv.ms/f/c/56c77bf572ac4598/EorJpPIOG6BEuksowEotFsABmDqTWdw4XQUnphOQ7zNc0g?e=vKuTmz>

Thanks to those who assisted with providing links and information, especially Dr. Hannah Horowitz at University of Illinois at Urbana and Champaign.

For any comments or questions, contact me at [elewis@bnl.gov](mailto:elewis@bnl.gov).

***Please freely share the information below with anyone you think might be interested, and distribute it as you wish – none of it is proprietary.***

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## **Resources for Career and Professional Development**

The Earth Science Women's Network (ESWN) at <https://eswnonline.org/> has a resource center at <https://eswnonline.org/online/eswn-resources/> that has provides a clearing house of professional and personal resources. They also run the Earth Sciences Job email list at [https://mailman.ucar.edu/mailman/listinfo/es\\_jobs\\_net](https://mailman.ucar.edu/mailman/listinfo/es_jobs_net) to which one can subscribe, post a job opportunity, or view the archives.

The American Meteorological Society (AMS) has a resource center with information on education, careers, professional development, networking opportunities, and other information at <https://www.ametsoc.org/index.cfm/ams/education-careers/careers/>.

The American Geophysical Union (AGU) has information on professional and career development at <https://www.agu.org/Learn-and-Develop/Learn/> and at <https://connect.agu.org/atmosphericciences/as-resources/atmospheric-sciences-resources>.

Penn State Department of Meteorology and Atmospheric Sciences has a career webpage at <http://www.met.psu.edu/careers/> with career resources including advice and tips for getting a job.

Physics Today has a careers toolbox for undergraduate physics students at <https://www.spsnational.org/sites/all/careerstoobox/> with information on interviewing and networking and recorded webinars on career development at <https://www.aip.org/jobs/webinars>.

The American Association for the Advancement of Science (AAAS) information on careers, fellowships, and internships at <https://www.aaas.org/careers#sciCareers>.

Science Magazine has information on science careers at <https://www.sciencemag.org/careers>.

The Institute for Broadening Participation (IBP)'s Pathways to Science website at <https://pathwaystoscience.org> has resources, webinars, and a variety of other resources for STEM students and faculty.

The American Association for Aerosol Research (AAAR) has a website with numerous links related to aerosols and atmospheric chemistry at <https://www.aaar.org/resources/related-links/>.

The Science Education Resource Center (SERC) at Carleton College and the National Association of Geoscience Teachers (NAGT) has a vast amount of information for career development at all levels, including graduate students and postdocs, early-career faculty members, mid-career faculty members, and workshops at [https://serc.carleton.edu/serc/site\\_guides/career.html](https://serc.carleton.edu/serc/site_guides/career.html) and [https://serc.carleton.edu/serc/site\\_guides/index.html](https://serc.carleton.edu/serc/site_guides/index.html). See also Preparing for an Academic Career in the Geosciences: <https://serc.carleton.edu/NAGTWorkshops/careerprep/index.html>

Schiappa, E. (2009), "Professional Development during your Doctoral Education," National Communication Association, is a thorough guide to help with your career: [https://www.natcom.org/sites/default/files/pages/NCA\\_Career\\_Center\\_Professional\\_Development\\_During\\_Your\\_Doctoral\\_Education.pdf](https://www.natcom.org/sites/default/files/pages/NCA_Career_Center_Professional_Development_During_Your_Doctoral_Education.pdf)

The Career & Internship Center of the University of Washington has many resources available on academic careers covering a range of career levels from undergraduate through faculty at <https://careers.uw.edu/academic-careers/>.

The American Chemical Society has career resources on its website at: <https://www.acs.org/education/students/graduate/gettingready.html>.

The National Postdoctoral Association has resources at <https://www.nationalpostdoc.org/>, including a list of core competencies at <https://www.nationalpostdoc.org/page/CoreCompetencies>.

The Postdoc Academy has resources at <https://www.postdocacademy.org/>.

Mentoring365 provides opportunities to develop professional connections: <https://mentoring365.chronus.com>.

## **Job Lists and Jobs**

**The two best places to look (and post) for jobs in atmospheric and aerosol science are:**

1) Earth Science Women's Network (<https://eswnonline.org/>) runs the Earth Sciences Job email list at [https://mailman.ucar.edu/mailman/listinfo/es\\_jobs\\_net](https://mailman.ucar.edu/mailman/listinfo/es_jobs_net) to which one can subscribe, post a job opportunity, or view the archives at [https://mailman.ucar.edu/pipermail/es\\_jobs\\_net/](https://mailman.ucar.edu/pipermail/es_jobs_net/).

2) Dr. Jose Jimenez of the University of Colorado at Boulder ([jose.jimenez@colorado.edu](mailto:jose.jimenez@colorado.edu)) maintains a list of jobs in atmospheric chemistry and aerosols which one can follow at <https://x.com/AtmChemAeroJobs>.

The American Geophysical Union (AGU) has a **list of job lists** at <https://connect.agu.org/atmosphericosciences/as-resources/atmospheric-sciences-resources#jobs>.

The Young Earth System Scientists Community has a **list of job lists** at <https://www.yess-community.org/resources/joblists/>.

The American Geophysical Union (AGU) lists jobs at <https://findajob.agu.org> and <https://www.agu.org/Learn-and-Develop/Learn/Career-Advancement/Find-a-Job>.

The American Meteorological Society (AMS) lists jobs at <https://careercenter.ametsoc.org/home> and <https://www.ametsoc.org/index.cfm/ams/education-careers/careers/jobs-and-internships/>.

Penn State Department of Meteorology and Atmospheric Sciences lists jobs in meteorology and atmospheric sciences at <http://www.met.psu.edu/careers/job-listings/all-job-listings>.

The American Chemical Society (ACS) list jobs at <https://communities.acs.org/t5/Job-Postings/gh-p/job-posts>, <https://communities.acs.org/t5/Knowledge-Base/Chemistry-Job-Postings/ta-p/66335>, and <https://chemistryjobs.acs.org/jobs/>.

The Association for the Sciences of Limnology and Oceanography (ASLO) lists jobs at <https://aslo.users.membersuite.com/community/career-center/browse-jobs/allJobs/allCities/allStates>.

The American Association for Aerosol Research (AAAR) list jobs at <https://www.aaar.org/resources/career-opportunities/>.

Science Magazine of the American Association for the Advancement of Science (AAAS) lists jobs at <https://jobs.sciencecareers.org/> and <https://jobs.sciencecareers.org/jobs/>.

Physics Today lists jobs at <https://jobs.physicstoday.org/jobs>.

The Royal Meteorological Society lists jobs at <https://jobs.rmets.org>.

The Institute for Broadening Participation (IBP)'s Pathways to Science website lists postdoctoral and early career science positions at

[https://pathwaystoscience.org/programs.aspx?u=Postdocs\\_Postdoc+%26+Early+Career&submit=y](https://pathwaystoscience.org/programs.aspx?u=Postdocs_Postdoc+%26+Early+Career&submit=y).

The GEWEX Career & Training Opportunities webpage lists career and training opportunities at <https://www.gewex.org/resource/position-announcements/>.

Climate and Ocean – Variability, Predictability, and Change (CLIVAR) has a jobs list at <http://www.clivar.org/Resources/jobs>.

The European Association of Geochemistry (EAG) lists jobs at <https://www.eag.eu.com/jobs/>.

Information on jobs in the US federal government can be found at <https://www.usajobs.gov>.

Employment opportunities through the US Department of Energy (DOE)'s Atmospheric System Research (ASR) program: <https://asr.science.energy.gov/news/employment>

Employment opportunities in the US Environmental Protection Agency (EPA): <https://epa.usajobs.gov/Search?a=EP00&p=1&k=%22environmental%20protection%20agency%22> and <https://www.epa.gov/careers>

Jobs at the National Aeronautics and Space Administration (NASA): <https://www.nasa.gov/careers> and <https://www.usajobs.gov/search/results?d=NN&p=1>

Career opportunities at the National Oceanographic and Atmospheric Administration (NOAA): <https://www.noaa.gov/work-with-us> and [https://www.noaa.gov/education/resource-collections/special-topics/career-resources?field\\_opportunity\\_type\\_target\\_id=488](https://www.noaa.gov/education/resource-collections/special-topics/career-resources?field_opportunity_type_target_id=488)

Careers at the US Naval Research Laboratory (NRL): <http://www.nrl.navy.mil/careers/>

University Corporation for Atmospheric Research (UCAR) career opportunities: <https://www.ucar.edu/opportunities/careers>

Jobs at the Cooperative Institute for Research in Environmental Sciences (CIRES) at the University of Colorado Boulder: <https://cires.colorado.edu/jobs>

Careers at the California Air Resources Board (CARB): <https://ww2.arb.ca.gov/careers>

Science, university, and research jobs in Europe: <https://www.universitypositions.eu>

Ecological Society of America Career Center lists jobs at: <https://www.esacareercenter.org/>

American Academy of Environmental Engineers and Scientists lists jobs at: <https://aaees.mcjobboard.net/jobs>

Academic jobs in the UK: <https://www.jobs.ac.uk>

Canadian Chemistry Faculty positions: <http://chempostingscanada.blogspot.ca/>

Science Policy jobs, from Engaging Scientists and Engineers in Policy (ESEP) Coalition:  
<https://X.com/SciPolJobs>

**Nonprofits:**

Rocky Mountain Institute (RMI): <https://rockymountain.wd1.myworkdayjobs.com/en-US/RMI>

Environmental Defense Fund (EDF): <https://www.edf.org/jobs>

Jupiter Intelligence (climate risk): <https://www.jupiterintel.com/careers>

## **General Information on Scholarships, Fellowships, and Internships**

(Many of these cover the undergraduate, graduate, and/or postdoctoral level.)

Scholarships and grants for college students: <http://usascholarships.com/>

Internships in the US Government: <https://www.usajobs.gov/Help/working-in-government/unique-hiring-paths/students/>

Lists of Scholarships and Financial Planning from Best Colleges (scroll down for scholarships): <https://www.bestcolleges.com/resources/financial-planning/>

National Academies of Science, Engineering, and Medicine Research Associateship Programs: <https://www.nationalacademies.org/our-work/rap/nrc-research-associateship-programs>

National Academies of Science, Engineering, and Medicine Fellowship Office: <https://sites.nationalacademies.org/PGA/Fellowships/index.htm>

STEM Internships and Fellowships from the Oak Ridge Institute for Science and Education (ORISE), including those for the US Department of Energy (DOE): <https://orise.ornl.gov/internships-fellowships/index.html>

US Department of Energy (DOE) Scholars Program: <https://orise.ornl.gov/doescholars/>

National Aeronautics and Space Administration (NASA) Internships, Fellowships, and Scholarships: <https://www.nasa.gov/learning-resources/internship-programs/> and <https://science.nasa.gov/learners/learner-opportunities>

National Oceanographic and Atmospheric Administration (NOAA) opportunities for students, including scholarships, internships, fellowships and post-doctoral experiences: <https://www.noaa.gov/education/opportunities/students>

Environmental Protection Agency (EPA) Research Fellowships and Scholarships: <https://www.epa.gov/careers/research-fellowships-and-scholarships>

The US Department of Defense (DOD) Science Mathematics, and Research for Transformation (SMART) Scholarship Program: <https://www.smartscholarship.org/smart>

American Meteorological Society (AMS) Scholarships and Fellowships: <https://www.ametsoc.org/index.cfm/ams/information-for/students/ams-scholarships-and-fellowships/>

American Association for the Advancement of Science (AAAS) internships: <https://www.aaas.org/careers/internship-opportunities>

American Chemical Society (ACS) Funding and Awards: <https://www.acs.org/funding.html>

American Physical Society (APS) Internships and Fellowships: <https://www.aps.org/careers/employment/internships.cfm>



Fellowship information from the American Geophysical Union (AGU):  
<https://connect.agu.org/atmosphericsciences/as-resources/atmospheric-sciences-resources#opportunities>

American Geophysical Union (AGU) Travel and Research Grants: <https://agu.secure-platform.com/a/>

United States Geological Survey (USGS) Internships and other Student/Recent Graduate Job Opportunities: <https://www.usgs.gov/youth-and-education-in-science/other-student-opportunities>

United States Geological Survey (USGS) Pathways Internship Program:  
<https://www.usgs.gov/human-capital/pathways-internship-program>

Fulbright U.S. Student Program Open Study/Research Award:  
<https://us.fulbrightonline.org/applicants/types-of-awards/study-research>

The Pat Tillman Foundation Scholarship: <https://pattillmanfoundation.org/apply/>

The Paul & Daisy Soros Fellowship for New Americans Scholarship: <https://www.pdsoros.org>

STEM program information from the Institute for Broadening Participation (IBP)'s Pathways to Science: <https://pathwaystoscience.org/Programs.aspx>

Research internships, fellowships, and scholarships funded by the government and private sector organizations: <https://www.zintellect.com/>

## **Undergraduate Scholarships, Fellowships, and Internships**

(see also section above on Information on Scholarships, Fellowships, and Internships)

National Science Foundation (NSF) Research Experiences for Undergraduate (REU) program:  
<https://new.nsf.gov/funding/opportunities/research-experiences-undergraduates-reu>

US Department of Energy (DOE) Science Undergraduate Laboratory Internship (SULI) program: <https://science.osti.gov/wdts/suli>

US Department of Energy (DOE) Scholars Program: <https://orise.ornl.gov/doescholars/>

US Department of Energy (DOE) Undergraduate Internships and Fellowships:  
<https://orise.ornl.gov/internships-fellowships/undergraduates.html>

US Department of Energy (DOE) Mickey Leland Energy Fellowship (MLEF) program:  
<https://orise.ornl.gov/mlef/>

National Oceanographic and Atmospheric Administration (NOAA) Ernest F. Hollings Undergraduate Scholarship: <http://www.noaa.gov/office-education/hollings-scholarship>

National Aeronautics and Space Administration (NASA) opportunities for undergrads:  
<https://science.nasa.gov/learn/learner-opportunities/#undergrad>

National Aeronautics and Space Administration (NASA) Internships:  
<https://www.nasa.gov/learning-resources/internship-programs/>

US Naval Research Laboratory (NRL) Naval Research Enterprise Internship Program (NREIP):  
<https://www.nrl.navy.mil/careers/students/nreip/>

American Meteorology Society (AMS) Freshman Undergraduate Scholarships:  
<https://www.ametsoc.org/index.cfm/ams/information-for/students/ams-scholarships-and-fellowships/ams-freshman-undergraduate-scholarship/>

American Meteorological Society (AMS) Senior Named Scholarships:  
<https://www.ametsoc.org/index.cfm/ams/information-for/students/ams-scholarships-and-fellowships/ams-senior-named-scholarships/>

United States Geological Survey (USGS) Cooperative Summer Fellowship Programs:  
<https://www.usgs.gov/youth-and-education-in-science/cooperative-summer-fellowship-programs>

The Barry Goldwater Scholarship: <https://goldwaterscholarship.gov/>

Astronaut Scholarship Program: <https://www.astronautscholarship.org/scholarshipprogram.html>

STEM Programs for undergraduates from the Institute for Broadening Participation (IBP)'s Pathways to Science: <https://pathwaystoscience.org/Undergrads.aspx>

Ten simple rules for getting the most out of a summer laboratory internship:  
<https://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1005606>

## **Graduate Scholarships, Fellowships, and Internships**

(see also section above on Information on Scholarships, Fellowships, and Internships)

National Science Foundation (NSF) Graduate Research Fellowship Program (GRFP):  
<https://www.nsfgrfp.org>

National Science Foundation (NSF) Graduate Research Opportunities Worldwide (GROW):  
<https://new.nsf.gov/funding/opportunities/graduate-research-opportunities-worldwide-grow/504876/105579>

National Science Foundation (NSF) INTERN graduate fellowships:  
<https://www.nsf.gov/pubs/2021/nsf21013/nsf21013.jsp?org=NSF>

US Department of Energy (DOE) Office of Science Graduate Research (SCGSR) Program:  
<https://science.osti.gov/wdts/scgsr>

US Department of Energy (DOE) Scholars Program: <https://orise.orau.gov/doescholars/>

US Department of Energy (DOE) Graduate Internships and Fellowships:  
<https://orise.orau.gov/internships-fellowships/graduates.html>

US Department of Energy (DOE) Computational Science Graduate Fellowship (CSGF):  
<https://science.osti.gov/ascr/CSGF>

US Department of Energy (DOE) Mickey Leland Energy Fellowship (MLEF) program:  
<https://orise.orau.gov/mlef/>

National Aeronautics and Space Administration (NASA) opportunities for graduate students:  
<https://science.nasa.gov/learn/learner-opportunities/#graduate>

National Oceanographic and Atmospheric Administration (NOAA) Graduate Fellowships:  
[https://www.noaa.gov/education/opportunities/students?field\\_audience\\_target\\_id=36](https://www.noaa.gov/education/opportunities/students?field_audience_target_id=36)

National Defense Science and Engineering Graduate (NDSEG) Fellowship Program:  
<https://ndseg.sysplus.com>

Oak Ridge Institute for Science and Education (ORISE) Graduate Internships and Fellowships:  
<https://orise.orau.gov/internships-fellowships/graduates.html>

US Naval Research Laboratory (NRL) Naval Research Enterprise Internship Program (NREIP):  
<https://www.nrl.navy.mil/careers/students/nreip/>

University Corporation for Atmospheric Research (UCAR) Next Generation Fellowships:  
<https://www.ucar.edu/opportunities/fellowships/ucar-next-generation-fellowships>

American Association for the Advancement of Science (AAAS) Science & Technology Policy Fellowships: <https://www.aaas.org/programs/science-technology-policy-fellowships>

Gilliam Fellows Program: <https://www.hhmi.org/programs/gilliam-fellows>

Hertz Foundation Graduate Fellowship: <https://www.hertzfoundation.org/the-fellowship/>

National Academies of Science, Engineering, and Medicine Ford Foundation Predoctoral Fellowships: <https://www.nationalacademies.org/our-work/ford-foundation-predoctoral-fellowships>

National Academies of Science, Engineering, and Medicine Ford Foundation Dissertation Fellowship: <https://www.nationalacademies.org/our-work/ford-foundation-dissertation-fellowships>

National Academies of Science, Engineering, and Medicine Christine Mirzayan Science & Technology Policy Graduate Fellowship Program: <https://www.nationalacademies.org/our-work/the-christine-mirzayan-science--technology-policy-graduate-fellowship-program>

American Meteorological Society (AMS) Graduate Fellowships: <https://www.ametsoc.org/ams/index.cfm/information-for/students/ams-scholarships-and-fellowships/ams-graduate-fellowships/>

List of STEM Graduate Programs and Fellowships from the Institute for Broadening Participation (IBP)'s Pathways to Science: <https://pathwaystoscience.org/Grad.aspx>

List of Graduate Grants, Fellowships, and Awards from the American Chemical Society (ACS): <https://www.acs.org/content/acs/en/education/students/graduate/scholarships.html>

United States Geological Survey (USGS) Pathway Programs for Students and Recent Graduates: <https://www.usgs.gov/human-capital/students-and-recent-graduates>

The Air Pollution Educational and Research Grant (APERG): <https://www.mass-awma.net/aperg.html>

## **Postdoctoral Fellowships**

(see also section above on Information on Scholarships, Fellowships, and Internships)

National Science Foundation (NSF) Special Programs for Postdoctoral Fellows:

<https://new.nsf.gov/funding/postdocs>

National Science Foundation (NSF) Atmospheric and Geospace Sciences Postdoctoral Research Fellowships: <https://new.nsf.gov/funding/opportunities/atmospheric-geospace-sciences-postdoctoral>

National Academies of Science, Engineering, and Medicine Fellowship Office:

<https://sites.nationalacademies.org/PGA/Fellowships/index.htm>

Department of Energy (DOE) Postdoctoral Research Fellowships:

<https://orise.orau.gov/internships-fellowships/postdocs.html>

National Aeronautics and Space Administration (NASA) Postdoctoral Program:

<https://npp.orau.org/>

National Aeronautics and Space Administration (NASA) opportunities for postdocs:

<https://science.nasa.gov/learn/learner-opportunities/#postdoc>

National Oceanographic and Atmospheric Administration (NOAA) Climate & Global Change (C&GC) Fellowship: <https://cpaess.ucar.edu/cgc/>

Environmental Protection Agency (EPA) Post-Doctoral Research Program:

<https://cfpub.epa.gov/ordpd/index.cfm>

National Center for Atmospheric Research (NCAR) Advanced Study Program (ASP)

Postdoctoral Fellowship Program: <https://edec.ucar.edu/advanced-study-program>

National Research Council (NRC) of the National Academies Research Association Programs:

<https://www.nationalacademies.org/our-work/rap/nrc-research-associateship-programs>

US Naval Research Laboratory (NRL) Post Doctoral Programs:

<https://www.nrl.navy.mil/careers/post-doc/nrc/>

United States Geological Survey (USGS) Mendenhall Research Fellowship Program:

<https://www.usgs.gov/centers/mendenhall-research-fellowship-program>

CIRES Visiting Fellows Program: <https://cires.colorado.edu/about/institutional-programs/visiting-fellows-program>

American Association for the Advancement of Science (AAAS) Science & Technology Policy Fellowships: <https://www.aaas.org/programs/science-technology-policy-fellowships>

National Academies of Science, Engineering, and Medicine Ford Foundation Postdoctoral Fellowship: <https://www.nationalacademies.org/our-work/ford-foundation-postdoctoral-fellowships>

Humboldt Research Fellowship for postdoctoral and experienced researchers: <https://www.humboldt-foundation.de/en/apply/sponsorship-programmes/humboldt-research-fellowship>

Air Pollution Educational Research Grant (APERG): <https://www.mass-awma.net/aperg.html>

L'Oreal for Women in Science postdoctoral fellowships: <https://www.loreal.com/en/usa/pages/group/fwis/>

Programs and Funding for Postdocs from the Institute for Broadening Participation (IBP)'s Pathways to Science: [https://pathwaystoscience.org/Postdocs\\_Portal.aspx](https://pathwaystoscience.org/Postdocs_Portal.aspx)

Camille & Henry Dreyfus Foundation Programs and Awards: <https://www.dreyfus.org/#>

Ten simple rules for writing a postdoctoral fellowship: <https://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1004934>

Ten simple rules for selecting a postdoctoral position: <https://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.0020121>

## **Scholarships, Fellowships, Internships, and Awards for Women**

(see also section above on General Information on Scholarships, Fellowships, and Internships)

Scholarships for women in science: <https://www.scholarshipsforwomen.net/science/>

Women in science scholarships: <https://www.unigo.com/scholarships/by-type/scholarships-for-women-in-science>

STEM scholarships for women: <https://www.nitrocollege.com/blog/ultimate-guide-stem-scholarships>

American Meteorological Society (AMS) Women in Science Scholarship: <https://www.ametsoc.org/index.cfm/ams/information-for/students/ams-scholarships-and-fellowships/women-in-science-scholarship/>

American Association of University Women (AAUW) Fellowships & Grants:

<https://www.aauw.org/resources/programs/fellowships-grants/>; these include:

American Fellowships: <https://www.aauw.org/resources/programs/fellowships-grants/current-opportunities/american/>

Career Development Grants: <https://www.aauw.org/resources/programs/fellowships-grants/current-opportunities/career-development/>

Community Action Grants: <https://www.aauw.org/resources/programs/fellowships-grants/current-opportunities/community-action/>

International Fellowships: <https://www.aauw.org/resources/programs/fellowships-grants/current-opportunities/international/>

International Project Grants: <https://www.aauw.org/resources/programs/fellowships-grants/current-opportunities/international-project/>

Selected Professions Fellowships: <https://www.aauw.org/resources/programs/fellowships-grants/current-opportunities/selected-professions-fellowships/>

L’Oreal USA for Women in Science postdoctoral fellowships:

<https://www.loreal.com/en/usa/pages/group/fwis/>

Camille & Henry Dreyfus Foundation ACS Award for Encouraging Women into Careers in the Chemical Sciences: <https://www.dreyfus.org/acs-awards-for-women/>

Wagner Memorial Award for Women in Atmospheric Sciences:

<https://www.dri.edu/about/awards-and-scholarships/wagner/>

Scholarships for women from Best Colleges:

<https://www.bestcolleges.com/resources/scholarships-for-women/>



## **Scholarships, Fellowships, Internships, and Awards for Underserved Groups**

(see also section above on General Information on Scholarships, Fellowships, and Internships)

American Meteorological Society (AMS) Scholarships for Underserved Communities:  
<https://www.ametsoc.org/index.cfm/ams/information-for/students/ams-scholarships-and-fellowships/ams-scholarship-for-underserved-communities-formerly-minority-scholarship/p/>

Scholarships for underserved groups from Best Colleges (scroll down on page):  
<https://www.bestcolleges.com/resources/financial-planning/>

Scholarships for Hispanic and Latino/a students:  
<https://www.bestcolleges.com/resources/hispanic-latino-scholarships/>

Scholarships for Black and African American students:  
<https://www.bestcolleges.com/resources/black-student-scholarships/>

National Oceanographic and Atmospheric Administration (NOAA) Educational Partnership Program with Minority Serving Institutions (EPP/MSI) Undergraduate Scholarship Program:  
<https://www.noaa.gov/office-education/epp-msi/undergraduate-scholarship>

Gilliam Fellowships for Advanced Study: <https://www.hhmi.org/programs/gilliam-fellows>

US Naval Research Laboratory (NRL) HBCU/MI Internship Program:  
<https://www.nrl.navy.mil/Careers/Students/HBCU-MI-Research-Internship-Program/>

American Chemical Society (ACS) Scholars Program to underrepresented minority students:  
<https://www.acs.org/education/acs-scholars.html>

Camille & Henry Dreyfus Foundation ACS Scholars Program: <https://www.dreyfus.org/acs-scholars-program/>

Camille & Henry Dreyfus Foundation ACS Award for Encouraging Underrepresented and Economically Disadvantaged Students into Careers in the Chemical Sciences:  
<https://www.dreyfus.org/acs-award-for-encouraging-disadvantaged-students/>

National Graduate Education for Minorities (GEM) Consortium Fellowship Program:  
<https://www.gemfellowship.org/gem-fellowship-program/>

Educational Partnership Program with Minority Serving Institutions (EPP/MSI) Undergraduate Scholarship Program (NOAA scholarships and internships for undergraduates at Minority Serving Institutions): <https://www.noaa.gov/office-education/epp-msi/undergraduate-scholarship>

Educational Partnership Program with Minority Serving Institutions (EPP/MSI) NOAA Experiential Research and Training Opportunities (NERTO): <https://www.noaa.gov/office-education/epp-msi/nerto>

National Academies of Science, Engineering, and Medicine Ford Foundation Fellowships:  
<https://www.nationalacademies.org/our-work/ford-foundation-fellowships>

**Scholarships, Fellowships, Internships, and Awards for LGBTQ+**  
(see also section above on General Information on Scholarships, Fellowships, and Internships)

College Scholarships for LGBTQ+ Students: <https://www.bestcolleges.com/resources/lgbtq-scholarships/>

Out in Science, Technology, Engineering, and Mathematics (oSTEM) Scholarship Program: <https://ostem.org/page/scholarship-program>

Out to Innovate Scholarship for LGBT+ Students in STEM: <https://www.outtoinnovate.org/scholarships>

## **Early-career Awards**

Presidential Early Career Awards for Scientists and Engineers:

<https://new.nsf.gov/od/honorary-awards/pecase>

Department of Energy (DOE) Early Career Research Program: <https://science.osti.gov/early-career>

American Association for the Advancement of Science (AAAS) Early Career Award for Public Engagement with Science: <https://www.aaas.org/awards/early-career-public-engagement/about>

Sloan Research Fellowships: <https://sloan.org/fellowships>

Camille Dreyfus Teacher-Scholar Award: <https://www.dreyfus.org/camille-dreyfus-teacher-scholar/>

Ten simple rules for writing a career development award proposal:

<https://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1005863>

## **Grants**

Information on federal grants can be found at <https://www.grants.gov/> and <https://www.federalgrants.com/>.

The major agencies that fund atmospheric research are DOE, NASA, NSF, NOAA, and EPA. Additionally the California Air Resources Board (CARB), and other federal agencies such as the National Institutes of Health (NIH), US Geological Survey (USGS), Office of Naval Research (ONR), and the National Institute of Science and Technology (NIST) also support research on topics that may be directly or indirectly related to the atmospheric sciences. Some websites for these agencies that are relevant to their funding are presented below. Additional files that contain information on how the major agencies listed above fund atmospheric research are on Dropbox and OneDrive at the links listed at the top of this document. They were provided by the funding managers who were kind enough to complete a template I sent. I would recommend that those documents are the first place to look for funding information.

DOE Office of Science Funding Opportunity Announcements (FOA):  
<https://science.osti.gov/ber/Funding-Opportunities>

NASA Solicitation and Proposal Integrated Review and Evaluation System (SPIRES) information: <https://nspires.nasaprs.com/external/>

The National Science Foundation (NSF) Grants Application Guide:  
[https://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=grantsgovguide0123&org=NSF](https://www.nsf.gov/publications/pub_summ.jsp?ods_key=grantsgovguide0123&org=NSF)

NOAA's Climate Program Office funding opportunities: <https://cpo.noaa.gov/Funding-Opportunities>

EPA Research Grants: <https://www.epa.gov/research-grants>

NIH funding information: <https://www.nih.gov/grants-funding>

Future Earth funding initiatives: <https://futureearth.org/initiatives/funding-initiatives/>

Ten simple rules for getting grants:  
<https://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.0020012>

## **Science Organizations for Women and Minorities**

The Earth Science Women's Network (ESWN): <https://eswnonline.org/>

Association for Women in Science (AWIS): <http://www.awis.org/>

Association for Women Geosciences (AWG): <https://awg.org/>

Association for Women Geoscientists (AWG), Earth Science Women's Network (ESWN), and the American Geophysical Union (AGU) partnership to address the problem of sexual harassment in the earth, space and environmental sciences (AdvanceGeo):

<https://serc.carleton.edu/advancegeo/index.html>

American Chemical Society (ACS) Women's Chemists Committee:

<https://communities.acs.org/t5/Women-Chemists-Committee/gh-p/wcc>

Women in Energy: <https://wewomeninenergy.com/>

500 Women Scientists: <https://500womenscientists.org>

American Association of University Women (AAUW): <https://www.aauw.org/>

National Society of Black Physicists (NSBP): <https://nsbp.org/>

National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE): <https://www.nobcche.org/>

Society for Advancement of Hispanics/Chicanos and Native Americans in Science (SACNAS):

<https://www.sacnas.org/>

Society of Latinx/Hispanics in Earth and Space Science (SOLESS):

<https://ciresdiversity.colorado.edu/soless>

Latin America Early Career Earth System Scientist Network (LAECESS):

<http://laearlycareer.wixsite.com/latinamericaeaccess>

National Organization of Gay and Lesbian Scientists and Technical Professionals (NOGLSTP):

<https://noglstp.org/>; now Out to Innovate (LGBTQ+): <https://oti.memberclicks.net/>

Out in Science, Technology, Engineering, and Mathematics (OSTEM): <https://www.ostem.org/>

American Geophysical Union (AGU) Ethics & Equity Center: <https://ethicsandequitycenter.org/>

They offer free legal consultation for harassment, bullying, or discrimination:

<https://ethicsandequitycenter.org/legal-consultation/>

## **Better Scientific Writing**

Norton, F. H. (1920), "The art of writing scientific reports," *The Scientific Monthly*, v. 11, pp. 548-554, December, 1920: <https://www.jstor.org/stable/6710>

Mermin, N. D. (1989), "What's wrong with these equations?," *Physics Today*, v. 42(10), pp. 9-11: <https://doi.org/10.1063/1.2811173>

Gopen, G. D., and J. A. Swan (1990), "The science of science writing," *American Scientist*, v. 78, pp. 550-558, Nov.-Dec., 1990: <https://www.americanscientist.org/blog/the-long-view/the-science-of-scientific-writing>

Claerbout, J. (1995), "Scrutiny of the introduction":  
<http://sepwww.stanford.edu/sep/prof/Intro.html>

Wheeler, J. A. (1999), "Wheeler's rules of writing," *American Journal of Physics*, v. 67(11), p. 945, Nov., 1999: <https://doi.org/10.1119/1.19169>

Whitesides, G. M. (2004), "Whiteside's group: Writing a paper," *Advanced Materials*, v. 16(15), pp. 1375-1377, August 4, 2004: <https://doi.org/10.1002/adma.200400767>

Sand-Jensen, K. (2007), "How to write consistently boring scientific literature," *Oikos*, v. 116(5), pp. 723-727, May, 2007: <https://doi.org/10.1111/j.0030-1299.2007.15674.x>

Andreas, E. L. (2007), "A new world record," *the Exchange* (newsletter of the Society for Technical Communication's Scientific Communication community), v. 14(2), p. 8, June, 2007: [https://people.nwra.com/resumes/andreas/publications/Shen\\_et\\_al\\_only.pdf](https://people.nwra.com/resumes/andreas/publications/Shen_et_al_only.pdf)

Petkewich, R. A. (2007), "Tips for writing a journal article," *Chemical and Engineering News*, v. 85(33): <https://cen.acs.org/articles/85/i33/Tips-Writing-Journal-Article.html>

Carraway, L. N. (2009), "Improve scientific writing and avoid perishing," *American Midland Naturalist*, v. 161(2), pp. 361-370: <https://doi.org/10.1674/0003-0031-161.2.361>

Carraway, L. N. (2009), "Content and organization of a scientific paper," *American Midland Naturalist*, v. 161(2), pp. 371-379: <https://doi.org/10.1674/0003-0031-161.2.371>

Murray, R. (2011), "Skillful writing of an awful research paper," *Analytical Chemistry*, v. 83(3), p. 633: <https://doi.org/10.1021/ac2000169>

Hites, R. A. (2014), "How to give a scientific talk, present a poster, and write a research proposal," *Environmental Science and Technology*, v. 48(17), pp. 9960-9964: <https://doi.org/10.1021/es503552t>

Bohren, C. A. (2019), "The curse of knowledge," *European Journal of Physics*, v. 40(3), 030201, pp. 1-3: <https://doi.org/10.1088/1361-6404/ab1202>

Ten simple rules for writing research papers:

<https://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1003453>

Ten simple (empirical) rules for writing science:

<https://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1004205>

Ten simple rules for structuring papers:

<https://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1005619>

Ten simple rules for scientists: Improving your writing productivity:

<https://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1006379>



## **Better Presentations**

Bragg, L., (1966), "The art of talking about science," *Science*, v. 154, pp. 1613-1616:  
<https://doi.org/10.1126/science.154.3757.1613>

Janzen, D. H. (1980), "Plea from a symposium goer," *Bulletin of the Ecological Society of America*, v. 61, pp. 170-171:  
<https://esajournals.onlinelibrary.wiley.com/doi/pdf/10.2307/20166246> or  
<https://doi.org/10.2307/20166246>

Garland, J. C. (1991), "Advice to beginning physics speakers," *Physics Today*, v. 44(7), pp. 42-45: <https://doi.org/10.1063/1.881265>

Mermin, N. D. (1992), "What's wrong with those talks?," *Physics Today*, v. 45(11), pp. 9-11:  
<https://doi.org/10.1063/1.2809861>

Pickett, S. T. T., B. E. Hall, and M. L. Pace (1991), "Strategy and checklist for effective scientific talks," *Bulletin of the Ecological Society of America*, v. 72(1), pp. 8-11:  
<https://esajournals.onlinelibrary.wiley.com/doi/10.2307/20167240> or  
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Sigmund, P. (1998), "Fifteen ways to get your audience to leave you," *Physics Today*, v. 51(8), p. 86, <https://doi.org/10.1063/1.882368>

Benka, S. G. (2008), "Who is listening? What do they hear?," *Physics Today*, v. 61(12), pp. 49-53: <https://doi.org/10.1063/1.3047683>

Petkewich, R. A. (2009), "Spectacular scientific talks," *Chemical and Engineering News*, v. 87:  
<https://cen.acs.org/articles/87/i17/Spectacular-Scientific-Talks.html>

Bingham, R. M. (2010), "Talking the talk: giving oral presentations about mammals for colleagues and general audiences," *Journal of Mammalogy*, v. 91(2), pp. 285-292:  
<https://doi.org/10.1644/09-MAMM-A-271.1>

McConnell, S. (2011), "Designing effective scientific presentations":  
<https://www.youtube.com/watch?v=Hp7Id3Yb9XQ>

Marshall, M. (2012), "Talk nerdy to me," TED Talk:  
[https://www.ted.com/talks/melissa\\_marshall\\_talk\\_nerdy\\_to\\_me](https://www.ted.com/talks/melissa_marshall_talk_nerdy_to_me)

Cooper, P., and J. Galkiewicz (2013), "Epic fail: What a perfectly putrid poster can do for you," *EOS*, v. 94(46), p. 425: <https://doi.org/10.1002/2013EO460006>

Gallo, Carmine (2014), "Talk like Ted," TED Talk:  
<https://www.youtube.com/watch?v=AFTPyvO6kcY>

Hites, R. A. (2014), “How to give a scientific talk, present a poster, and write a research proposal,” *Environmental Science and Technology*, v. 48(17), pp. 9960-9964:  
<https://doi.org/10.1021/es503552t>

Wheelwright, M. T. (2014), “Plea from another symposium goer,” *Frontiers in Ecology and the Environment*, v. 12(2), pp. 98-99: <https://doi.org/10.1890/14.WB.002>

Brouk, T. (2018), “To give a great presentation, distill your message to just 15 words,” *Harvard Business Review*, November 7, 2018: <https://hbr.org/2018/11/to-give-a-great-presentation-distill-your-message-to-just-15-words?autocomplete=true>

Duarte, N., “The secret structure of great talks,” TED Talk:  
[https://www.ted.com/talks/nancy\\_duarte\\_the\\_secret\\_structure\\_of\\_great\\_talks](https://www.ted.com/talks/nancy_duarte_the_secret_structure_of_great_talks)

Reynolds, G., “Presentation Zen: Ten steps for achieving presentation Zen on stage”:  
<http://www.presentationzen.com/presentationzen/2014/11/10-tips-for-improving-your-presentations-lectures-speeches.html>

Schultz, D. M., “Eloquent Science: A practical guide to becoming a better Writer, Speaker, and Atmospheric Scientists: <https://archive.org/details/eloquentsciencep0000schu>

Ten simple rules for a good poster presentation:  
<https://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.0030102>

Ten simple rules for making good oral presentations:  
<https://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.0030077>

Ten simple rules for better figures:  
<https://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1003833>

Ten simple rules for short and swift presentations:  
<https://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1005373>

## **Miscellaneous**

### **Policy:**

Engaging Scientists and Engineers in Policy (ESEP) Coalition: <https://X.com/ESEPCoalition> and <https://www.science-engage.org/scipolresources>

The American Meteorological Society organizes a summer policy colloquium: <https://www.ametsoc.org/index.cfm/ams/policy/summer-policy-colloquium/>

### **Graduate school:**

Alland, J. J., Carter, K. C., A. J. Drager, S. M. Hitchcock, and E. R. Nielsen (2018): Mistakes will happen in graduate school. *Bull. Amer. Meteor. Soc.*, 99, p. 836 of [https://doi.org/10.1175/BAMS\\_994\\_833-848\\_45Beacon](https://doi.org/10.1175/BAMS_994_833-848_45Beacon)

Ten simple rules for graduate students:

<https://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.0030229>

### **Finding a job:**

Nielsen, E. R., S. M. Hitchcock, A. J. Drager, J. J. Alland, and K. C. Carter (2017): Finding the right match, *Bull. Amer. Meteor. Soc.*, 98, pp. 2466–2467 of [https://doi.org/10.1175/BAMS\\_9811\\_2465-2472\\_45Beacon](https://doi.org/10.1175/BAMS_9811_2465-2472_45Beacon)

Ten simple rules for finding the right job after your PhD or postdoc:

<https://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1007723>

### **Obtaining a faculty position:**

Snapp, E. (2016), Strategies for Obtaining a Faculty Position in the Biomedical Sciences: Views from Both Sides of the Job Search Process (this is geared toward the biomedical sciences but is more widely applicable):

[https://cdn2.hubspot.net/hubfs/306096/4\\_17\\_to\\_6\\_17/applyingForFacultyPositionAdvice\\_ES\\_2017\\_4\\_13/Strategies%20for%20Obtaining%20a%20Faculty%20Position%20in%20the%20Biomedical%20Science.pdf?t=1500580592769](https://cdn2.hubspot.net/hubfs/306096/4_17_to_6_17/applyingForFacultyPositionAdvice_ES_2017_4_13/Strategies%20for%20Obtaining%20a%20Faculty%20Position%20in%20the%20Biomedical%20Science.pdf?t=1500580592769)

Guest Blogger (2017), Tips for Getting a Faculty Position (this is also geared to the biomedical sciences but is more widely applicable): <http://blog.addgene.org/tips-for-getting-a-faculty-position>

Kane, S. A., and K. Laws (2006), Hunting for jobs at liberal arts colleges, *Phys. Today*, 59(11): 38-42: <http://doi.org/10.1063/1.2435645>. This article is a bit old, but the advice is still relevant. See also links and additional information at end of the article.

Ten simple rules for giving an effective academic job talk:

<https://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1007163>

Ten simple rules for writing a cover letter to accompany a job application for an academic position: <https://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1006132>

### **Better CVs and resumes:**

CVs and Cover Letters (2019), by Harvard Office of Career Services:  
<http://hwpi.harvard.edu/files/ocs/files/gsas-cvs-and-cover-letters.pdf>

How to Write a Great Resume and Cover Letter, by Harvard Extension School:  
<https://extension.harvard.edu/blog/how-to-write-a-great-resume-and-cover-letter/>

Ultimate resume guide, by Ladders: <https://www.theladders.com/resume>

LifeKit Podcast on Resumes: <https://www.npr.org/transcripts/1199885893>

Carter, K. C., J. J. Alland, A. J. Drager, S. M. Hitchcock, and E. R. Nielsen (2017): Preparing a good CV, *Bull. Amer. Meteor. Soc.*, 98, pp. 2238–2239 of  
[https://doi.org/10.1175/BAMS\\_9810\\_2233-2240\\_45Beacon](https://doi.org/10.1175/BAMS_9810_2233-2240_45Beacon)

Drager, A. J., E. R. Nielsen, S. M. Hitchcock, J. J. Alland, and K. C. Carter (2017): Building your professional webpage, *Bull. Amer. Meteor. Soc.*, 98, pp. 2708–2709 of  
[https://doi.org/10.1175/BAMS\\_9812\\_2707-2714\\_45Beacon](https://doi.org/10.1175/BAMS_9812_2707-2714_45Beacon)

### **Interviewing:**

Harwell, D. (2016): “Interviewing 101: Navigating the four-step process,” *EOS* (Transactions of the American Geophysical Society: <https://eos.org/features/interviewing-101-navigating-the-four-step-process>

Harwell, D., and N. Janick (2017): “Interviewing 102: Questions about questions,” *EOS* (Transactions of the American Geophysical Society: <https://eos.org/features/interviewing-102-questions-about-questions>

### **Networking:**

Levine, A. G. (2018), “First network. Then follow up,” *Physics Today*, February 9, 2018:  
<https://physicstoday.scitation.org/doi/10.1063/PT.6.5.20180209a/full/> or  
<https://doi.org/10.1063/PT.6.5.20180209a>

### **Career Advice:**

Sternberg, R. J. (2015), “Career Advice from an oldish not-quite geezer,” *Chronicle of Higher Education*, May 26, 2015: <https://www.chronicle.com/article/Career-Advice-From-an-Oldish/230335>

Harwell, D., and N. Janek (2017), “Four steps to finding your career fit,” *EOS* (Transactions of the American Geophysical Society), March 6, 2017: <https://eos.org/features/four-steps-to-finding-your-career-fit>

Patterson, J. D. (2004), “An open letter to the next generation,” *Physics Today*, v. 57(7), pp. 56-57, July, 2004: <http://doi.org/10.1063/1.1784304> or <https://doi.org/10.1063/1.1784304>

### **Teaching statements:**

Austin, R. H. (2006): “Writing the teaching statement,” *Science*:  
<https://www.science.org/content/article/writing-teaching-statement-rev2>

Cooper, M. M., “Six tips for writing an effective teaching statement,” American Chemical Society: <https://www.acs.org/content/acs/en/education/students/graduate/six-tips-for-writing-an-effective-teaching-statement.html>

The Yale Poorvu Center for Teaching and Learning:  
<https://poorvucenter.yale.edu/teaching/professional-development/teaching-statements>

### **Research statements:**

Cornell University: <https://gradschool.cornell.edu/career-and-professional-development/pathways-to-success/prepare-for-your-career/take-action/research-statement/>

The Science Education Resource Center (SERC) at Carleton College:  
[https://serc.carleton.edu/NAGTWorkshops/careerdev/NEGSA-Workshop09/research\\_statem.html](https://serc.carleton.edu/NAGTWorkshops/careerdev/NEGSA-Workshop09/research_statem.html)

University of California at San Francisco: <https://career.ucsf.edu/gsp/faculty-samples>

### **Communicating with the public and with journalists:**

“Advice for scientists who want to write for the public” by Rob Dunn:  
<http://yourwildlife.org/2013/06/advice-for-scientists-who-want-to-write-for-the-public/>

American Association for the Advancement of Scientists (AAAS) Communicating Science offers guides on working with reporters, engaging the public, and hosts science communication workshops: <https://www.aaas.org/programs/communicating-science>. Their toolkit “Working with journalists” can be found at <https://www.aaas.org/resources/communication-toolkit/working-journalists>.

Ed Yong (2013), “A Guide for Scientists on Giving Comments to Journalists,”  
<https://www.nationalgeographic.com/science/article/a-guide-for-scientists-on-giving-comments-to-journalists>

Hayes, R., and D. Grossman (2017), “A Scientist's Guide to Talking with the Media: Practical Advice from the Union of Concerned Scientists,” is available on Amazon at <https://www.amazon.com/Scientists-Guide-Talking-Media-Practical/dp/0813538580>.

### **General Schedule (GS) Classifications**

Job Family Position Classification Standard for Professional Work in the Physical Science Group, GS-1300 (GS classifications): <https://www.opm.gov/policy-data-oversight/classification-qualifications/classifying-general-schedule-positions/standards/1300/gsl300p.pdf>