



**Some Screenshots: Examples of APS Web Resources
and Offerings in Education, Careers, Mentoring, Public
Engagement...and More!**



The screenshot shows the APS website homepage. At the top left is the APS logo and the text 'Advancing Physics'. To the right, there are links for 'American Physical Society Sites', 'APS', 'Journals', and 'Physics Magazine', along with a search bar and links for 'Login', 'Become a Member', and 'Contact Us'. A dark blue navigation bar contains the following menu items: 'Publications', 'Meetings & Events', 'Programs', 'Membership', 'Policy & Advocacy', 'Careers In Physics', 'Newsroom', and 'About APS'. The 'Programs' menu is highlighted with a red rounded rectangle and is open, showing a list of sub-items: 'Education', 'Ethics', 'International Affairs', 'Public Engagement', 'Women in Physics', 'Minorities in Physics', 'LGBT Physicists', 'Industrial Physics', 'Innovation', 'Honors', and 'Careers'. Below the navigation bar, the page features several content blocks: a large image of a woman at a laptop; a 'Manuscript with APS' section with a 'GET A QUOTE' button; a 'I Want to...' section with links like 'Become an APS Member' and 'Find a Member'; an 'Upcoming Meetings' section listing the 'APS March Meeting 2024' and 'APS April Meeting 2024'; an 'APS Membership' section with a 'Join Now' button and a 'Free Student Trial' link; and several news snippets with titles like 'Reducing Inequity in the Shift to Public Access' and 'Opinion: Physics Needs Community Colleges'. A 'News Archive' link is also visible.

[Home](#) > [Programs](#) > [Education](#)

Education

APS is a leading voice for physics education and supports physics educators at all levels through our programs, publications, and resources. An education in physics can take students on a variety of career paths in industry, research, academia, and more. [Explore physics careers.](#)

For Physics Departments

To support starting, maintaining and growing a physics department through student recruitment and retention, APS has initiated a number of programs and professional networks.

- [Effective Practices for Physics Programs \(EP3\)](#), a guide to improving and growing physics departments
- [The PIPELINE Project and EPIC report](#), resources for teaching innovation and entrepreneurship in physics
- [PhysTEC](#), an initiative for bolstering physics teacher education programs
- [APS Inclusion, Equity, and Diversity Alliance \(APS IDEA\)](#), a network for physics professionals to transform their departments by advancing justice, equity, diversity, and inclusion
- [Inclusive Graduate Education Network \(IGEN\)](#), an initiative to dramatically increase the number of physical science doctoral degrees earned by Black, Latinx, and Indigenous students
- APS's [Physics Education Statistics](#) reports on the challenges and opportunities in the physics community, focusing on demographic information for physics degree recipients from US-based institutions.

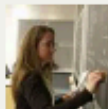


For Physics Teachers & Learners

APS provides resources for physics teachers and learners at all levels, including high school teachers, professors and other staff in higher education, and graduate and undergraduate students.

High School Educators

APS empowers high school physics teachers to foster a passion for science in their students and grow their profession. [Learn more](#)



Faculty & Academics

APS connects faculty, graduate students, and academics through resources such as mentoring and workshops. [Learn more](#)



Student Diversity Resources

APS encourages diverse students at all levels to pursue their love of science through physics education and careers. [Learn more](#)



Programs

Education

Why Study Physics?

K-8

High School

Undergraduate

Graduate

Education Conferences

Ethics

International Affairs

Public Engagement

Women in Physics

Minorities in Physics

LGBT Physicists

Industrial Physics

Innovation

Honors

Home > Programs > Education > Why Study Physics?

Why Study Physics?

Want to Know How and Why? Learn Physics

Physics is crucial to understanding the world around us, the world inside us, and the world beyond us. It is the most basic and fundamental science.

Physics challenges our imaginations with concepts like relativity and string theory, and it leads to great discoveries, like computers and lasers, that lead to technologies which change our lives—from healing joints, to curing cancer, to developing sustainable energy solutions. Check real physicist stories in the box to the right.

Like Science? It Began with Physics

Physics encompasses the study of the universe from the largest galaxies to the smallest subatomic particles.

Moreover, it's the basis of many other sciences, including chemistry, oceanography, seismology, and astronomy (and can be applied to biology or medical science). All are easily accessible with a bachelor's degree in physics.

Want Skills? Physicists Learn Them

Physicists are problem solvers. Their analytical skills make physicists versatile and adaptable so they work in interesting places.

You can find physicists in industrial and government labs, on college campuses, in the astronaut corps, and consulting on TV shows. In addition, many physics grads work at newspapers and magazines, in government, and even on Wall Street—places where their ability to think analytically is a great asset.

Want a Job? People Hire Physicists

Physics brings a broad perspective to any problem. Because they learn how to consider any problem, they are not bound by context. This inventive thinking makes physicists desirable in any field. A bachelor's degree in physics is a great foundation for careers in:

- Journalism
- Law
- Finance
- Medicine
- Engineering
- Computer Science
- Astronomy
- Biology

Like Money? Physics Beats Other Sciences

Even when the job market is slow, physicists get job offers—well paying jobs. Employers know that a physicist brings additional skills with expertise and pay accordingly. That's why physics graduates can expect career salaries similar to those of computer science and engineering majors.

• [Physics Career Statistical Data](#)

Don't Take Our Word for It!

Read Real Physicist Profiles



Curing Cancer:
[Albin Gonzalez](#)



Healing Joints:
[Marta McNeese](#)



Science Comedy:
[David Cohen](#)



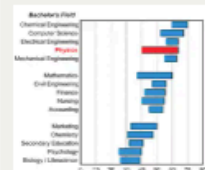
Policy Analysis:
[Alison Binkowski](#)

Skills Used by Physics Bachelors in Engineering or Computer Science Fields



Data Courtesy: [AIP Statistical Research](#)

What's a Bachelor's Degree Worth?



Reprinted from Fall 2009 Salary Survey, with permission of the [National Association of Colleges and Employers](#). ©

aps.org/programs/education/undergrad

Programs


- Education
 - Why Study Physics?
 - K-8
 - High School
 - Undergraduate**
 - Graduate
 - Education Conferences
- Ethics
- International Affairs
- Public Engagement
- Women in Physics
- Minorities in Physics
- LGBT Physicists
- Industrial Physics
- Innovation
- Honors

Home > Programs > Education > Undergraduate

Undergraduate Resources for Undergraduate Students and Educators

Faculty & Mentors

• [Undergraduate Physics Faculty](#)




APS supports physics faculty:

- [Mentor training resources](#)
- [Improving undergraduate programs](#)
- [Reforming physics courses](#)
- [Recruiting physics students](#)
- [Introducing students to physics research](#)
- [Preparing future physics teachers](#)
- [Analyzing undergraduate statistics](#)

Students

• [Undergraduate Physics Students](#)



APS supports undergraduate physics students:

- [Applying to graduate school](#)
- [Attending APS Meetings](#)
- [Getting involved in research](#)
- [Choosing a physics careers](#)
- [Scholarship information](#)
- [Internship information](#)
- [Joining physics societies](#)

Careers In Physics

Search Physics Jobs

job title, keyword...

[Advanced Search](#) | [Job Alerts](#)

For Employers: [Post a Job](#)



Resources for Job Seekers



A step-by-step guide to physics careers that align with your interests, talents, and values — and how to build a successful road toward them.

[The Guidebook](#) →

Explore Physics Careers



See the breadth of opportunities for physics graduates in industry, national labs, and beyond — and get the guidance you need to land those jobs.

[Careers 2024 Guide](#) →

Webinars for Physicists

Webinars offering discussion, career guidance, and advice.

[View webinars](#) →

Career Paths

A physics degree opens the door to many career paths. Learn how others charted their courses.

[Explore career paths](#) →

Industry Mentoring

IMPact connects students and postdocs with industry mentors.

[Find a mentor or mentee](#) →

Physicist Career Profiles

Read about the careers of over 50 physicists in various sectors.

[View profiles](#) →

For Mentors

APS provides several opportunities for our members to mentor the next generation of physicists:

Industry Mentoring for Physicists (IMPact) connects industry professionals with students exploring career options.

[Sign up](#) →

Career Mentoring Fellows attend an APS March or April Meeting to provide feedback on undergraduate student presentations. Fellows also receive implicit bias training and give a career talk at an institution near them.

[Learn more](#) →

Upcoming Events & Meetings

APS March Meeting

Minneapolis, Minnesota, & Virtual

- Workshop: Mastering the Art of Refereeing in Soft and Living Matter
Sunday, March 3, 10am CT
- Future of Physics Days events for undergrads
Sunday - Wednesday, March 3-6
- Industry Career Panel
Monday, March 4, 12pm CT
- Job Expo
Monday - Thursday, March 4 - 7
- National Mentoring Community Reception
Tuesday, March 5, 4:30 pm CT

[Review the full March Meeting schedule](#)

APS April Meeting

Sacramento, California, & Virtual

- Future of Physics Days events for undergrads
Wednesday - Friday, April 4-6
- Mentoring Workshop
Wednesday, April 4, 1:30pm PT
- Meet Your Future: Career Panel (livestreamed)
Friday, April 5, 10:45am PT

[Review the full April Meeting schedule](#)

APS Webinars

[Sign Up and View Webinars](#)

Physics Job Board

Your next career move in academia, national labs, industry, and more is just a few clicks away. Browse open positions and create alerts for new job postings.

[Browse physics jobs](#)

aps.org/careers

Across the Spectrum Playing Cards

Showcase physics careers for you students with Across the Spectrum playing cards. Each deck features 26 career profiles of women and gender minorities in physics.



Order a set →

More Career Resources

Insight Physics Slideshows

Physics InSight is a series of slideshows designed to inform and excite undergraduates about physics.

View more →

FIAP Career Lectureship Award

This award seeks to recognize and honor physicists in industrial and other non-academic careers.

View more →

Statistical Job Data

The AIP Statistical Research Center publishes, graphs, and analyzes data on education and employment in physics.

View more →

Advancing Graduate Leadership (AGL)

This program offers leadership and professional development events for women and gender minority graduate students & postdocs.

View more →

Committee on Careers & Professional Development

The Committee is responsible for coordinating affairs within the Society concerned with career and professional development in physics.

View more →

Employment Resources for International Members

International physics students and professionals may be eligible to apply for employment based visas and work authorizations in the United States.

View more →

Work at APS


APS is looking for people with a passion for physics and the physical sciences to join our team of talented professionals.

View more →

<https://aps.org/careers/guidance/international>

Careers in Physics

- Physics Jobs
- Becoming a Physicist
- Career Guidance
 - Professional Guidebook
 - APS Careers Guide
 - Webinars for Physicists
 - Career Mentoring Fellows
- Employment Resources for International Members**
- Tools for Career Advisors
- Statistical Data
- Spectrum Playing Cards




Employment Resources for International Members

International physics students and professionals may be eligible to apply for employment based visas and work authorizations in the United States (US), such as: H-1B, Optional Practical Training (OPT), Curricular Practical Training (CPT), and Green Cards. Requirements are different between each visa/authorization, so it's important to review your eligibility before applying.

APS has put together these resources as a general overview to help our members, however, this content should not be regarded, interpreted, or relied upon as legal advice.


Visit [APS Government Affairs \(GA\)](#) to learn about efforts by APS in support of international students and professionals in the US. GA also provides [advocacy steps](#) you can take to urge Congress to keep STEM talent in the US.

Employment-Based Visas and Work Authorizations




H-1B Visas allow U.S. employers to temporarily employ foreign workers in specialty occupations sponsored and initiated by employers.

H-1B Visa




OPT work authorizations temporarily allow international students with an F-1 visa to work up to 12 months in relation to their major of study.

Optional Practical Training



CPT work authorizations temporarily allow international students to gain practical experience through employment and paid or unpaid internships.

Curricular Practical Training



Individuals in certain occupations may be eligible to become a lawful permanent resident based on an offer of permanent employment in the United States.

Green Card

Become a member

Join APS to stay connected with the latest developments in the physics world. APS works on behalf of the physics community to improve physics education, inform the public and policy leaders about the importance and excitement of physics, increase the diversity of the field, and reach out to physicists around the world. Join now and become part of these efforts.

Create your account to get started.

[Join online now](#)



[Learn more about APS membership](#)

Benefits of Joining APS

- Stay current with provoking analysis and exceptional research publications.
- Receive an exclusive member discount to over 20 APS physics research meetings with physicists, scientists, and journalists from around the world.
- Receive professional development and recognition.
- Connect with scientists of common research and topical interests through member sub-groups.
- And more!

[Explore APS Member Benefits](#)

Students Join for Free

The first year of APS membership is free for undergrads and graduate students, with additional discounts until graduation.

Students have access to APS Sections and Forums to connect with scientists in their local communities and engage with colleagues of similar interests. In addition, students are eligible to join two [APS Divisions or Topical Groups](#) to keep abreast of new developments in specialized fields.

[Free Student Trial Membership](#)



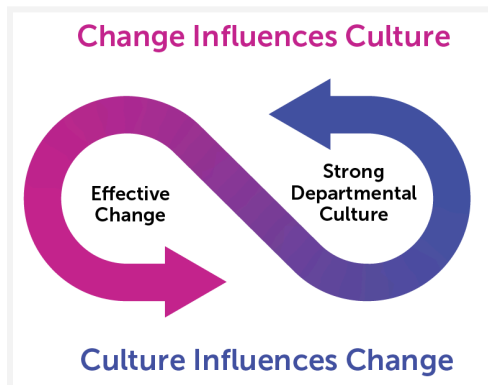
Free Memberships Available for Developing Countries

Through the Matching Membership Program, individuals residing in developing countries may apply for free membership.

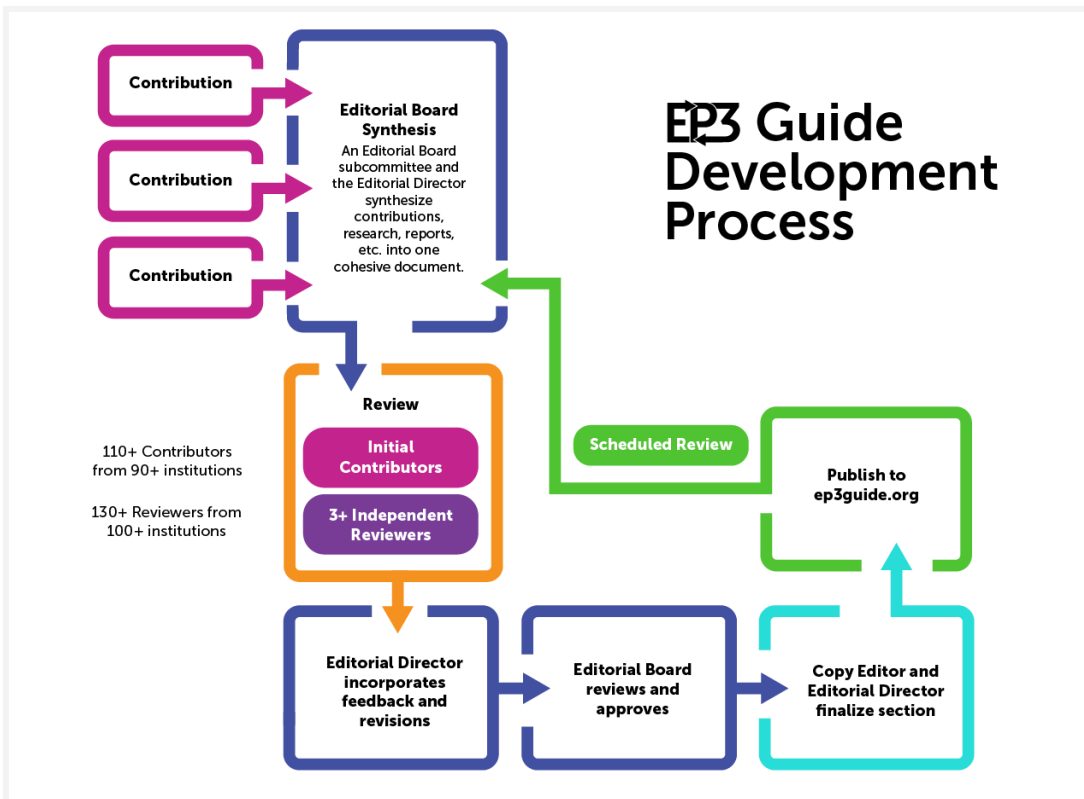
[Matching Members Program](#)



The Effective Practices for Physics Programs (EP3) initiative is a collaborative effort between the American Physical Society (APS) and the American Association of Physics Teachers (AAPT) to promote high-quality physics education. EP3 empowers departments to engage with intentional and effective change by building capacity, engaging in cyclic self-reflection, embracing shared action and leadership, and leveraging accreditation and program review as tools. These processes involve continued self-reflection, assessment, and improvement that draws on evidence-based practices and resources. Effective change influences strong departmental culture, which in turn influences and enables effective change.



The initiative maintains a Guide (EP3Guide.org), an online living document that will be regularly updated and expanded. An inherent challenge is that local contexts have a significant impact on what effective change will look like; there is no single “silver bullet” or single “best practice”. As a result, the Guide offers a range of *effective* practices and actionable implementation strategies for department leaders and change agents to consider and adapt. EP3 synthesized contributions from over 250 individuals, including content experts and practitioners throughout higher education (e.g., department chairs, faculty, administrators), national laboratories, and the private sector. The Guide currently includes 28 sections including Recruiting of Undergraduate Physics Majors; Retention of Undergraduate Physics Majors; Advising and Mentoring of Students; Preparing Students for Graduate School in Physics and Related Fields; Computational Skills; and Equity, Diversity, and Inclusion. Finally, the Guide includes a Toolkit for Departments Under Threat, which was developed based on over 50 interviews with administrators and physics faculty facing a variety of threats. There are also Goal Maps to help users identify relevant Guide sections for departmental goals, such as improving student satisfaction or leading a strong department.



APS PUBLIC ENGAGEMENT



- ✔ Support physicists to be effective ambassadors for physics
- ✔ Widespread participation in physics engagement

APS Public Engagement, an integral part of the Office of Public Affairs, wants to extend an invitation to APS Units to collaborate with us to elevate your unit's public engagement efforts and empower unit members as influential ambassadors for physics. Through this partnering, your content expertise and enthusiasm for physics along with our support and expertise in connecting with diverse audiences comes together to develop and design initiatives with high impact. From community engagement initiatives to dynamic educational events, APS Public Engagement aims to create enduring partnerships, allowing audiences to delve into the fascinating interests and cutting-edge research of your unit, and for members to grow their skills and increase the impact and quality of their research.

Join us in sparking a meaningful dialogue, making physics accessible, and strengthening the relationship between scientists and the public. Contact us now to explore the possibilities of impactful collaboration.

JOINT NETWORK FOR INFORMAL PHYSICS EDUCATION AND RESEARCH (JNIPER)

JNIPER is a community of practice for physicists involved in public engagement. JNIPER workshops and activities can support your Unit in learning effective ways to engage with the public on physics topics and how to assess and advocate for your public engagement work.

SCIENCE TRUST

The Science Trust Project equips physicists to more effectively address misinformation about science, with an approach of strengthening relationships between scientists and the public. The Science Trust Project provides members access to a network of physicists who are interested in addressing misinformation as well as a variety of training opportunities that can be customized for your Unit.

WIKI SCIENTIST

Put your Unit's knowledge into action by sponsoring an APS Wiki Scientist Course or edit-a-thon focused on your Unit's area of expertise. You will learn how to edit and update Wikipedia pages and Wikidata entries in order to improve the public's access to physics knowledge, raise awareness of the accomplishments of marginalized groups within physics, and grow your science communication skills.

PHYSICSQUEST

PhysicsQuest has served teachers and children across the US for almost two decades. The program engages children in inquiry-based physics activities to demonstrate that physics can be fun and accessible. It aims to empower teachers to teach physics with current, student-centered practices in which children experience what it means to do physics and inspire them to continue learning.

Our three expert model enlists APS members as content experts for activity development; partnered with public engagement staff and teachers as instructional expert to develop high quality curricula. We would develop activities around your Unit's content and research and featured on the cover.

PHYSICISTS TO-GO

Physicists To-Go pairs science professionals with K-12 classrooms. Physicists share their knowledge and passion for science with the next generation. Educators can show their students the many discoveries and innovations brought to us by physics. We would host a special cycle partnering your Unit's members with classrooms (K-College) across the country to support the PhysicsQuest content and further the reach of your field.

Building A Thriving Physics Community

APS is dedicated to empowering physicists throughout their professional journeys by offering expert support and guidance in the realm of Public Engagement. Our mission is to equip members of the physics community with the necessary tools and knowledge to serve as effective ambassadors for their field. With a vision of fostering widespread participation in physics engagement, we strive to create opportunities for meaningful interaction and collaboration within the scientific community and beyond.

International Year of Quantum (IYQ)

The 2025 International Year of Quantum Science and Technology is a global initiative that aims to strengthen national capacities in the basic sciences and science education. Detailed event and activity preparation and organization begins now! If you have ideas for quantum education or public engagement activities, or want to learn about other ways to participate, reach out to the organizers at info@quantum2025.org.

HigherEd Faculty/Staff ▾

Graduate Students ▾

Undergraduate Students ▾

Industry/Government Physicists ▾



INTERNATIONAL YEAR OF
Quantum Science
and Technology

quantum2025.org

Joint Network for Informal Physics Educators and Researchers (JNIPER)

JNIPER is a community of practice for physicists engaged in designing, facilitating, or studying informal physics learning (i.e. public engagement) activities and programs. Students, faculty, or other professionals looking to get started in public engagement, or to level- up their current engagement efforts, are encouraged to join JNIPER at our next coffee hour, workshop, or on Slack!

Graduate Students ▾



aps.org/programs/outreach/jniper

Undergraduate Students ▾

HigherEd Faculty/Staff ▾

Industry/Government Physicists ▾

Physicists To-Go / Quantum To-Go

The goal of Physicists To-Go and Quantum To-Go is to inspire K-12 students to pursue physics, science, and technology careers by matching classrooms with physics and quantum professionals. This class visit (virtual) outreach program offers faculty and professionals within the field of physical science, engineering, and technology an opportunity to participate in community-building activities.

Graduate Students ▾

Industry/Government Physicists ▾

HigherEd Faculty/Staff ▾

K-12 Educators ▾



aps.org/programs/outreach/physiciststogo.cfm

PhysicsQuest

The aim of PhysicsQuest is to introduce students to the basic concepts of physics, through fun experiments that will sustain their interest in math and science. We partner with members to develop lessons as content experts and teachers as pedagogy experts to test lessons. Whether for your science class, home school group, science club, or after-school program, PhysicsQuest can be a valuable tool to spark that interest.

Graduate Students ▾

HigherEd Faculty/Staff ▾

K-12 Educators ▾



<https://aps.org/programs/outreach/physicsquest/index.cfm>

Science Trust Project

The Science Trust Project equips physicists with research-based communication skills to more effectively address misinformation about science in their communities. The Science Trust Project provides members access to a network of physicists who are interested in addressing misinformation, and a variety of training opportunities including webinars, workshops, and other resources.

Graduate Students ▾

Undergraduate Students ▾



aps.org/programs/science-trust.cfm

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HigherEd Faculty/Staff ▾

Industry/Government Physicists ▾

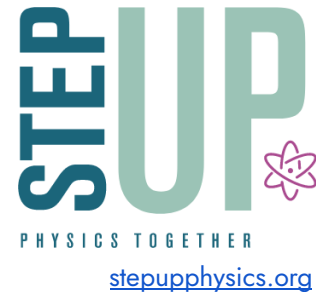
STEP UP

STEP UP is a national community of physics teachers, researchers, and professional societies mobilizing to engage young women in physics. STEP UP designs high school physics lessons (that can also be used in undergraduate classrooms) to empower teachers, create cultural change, and inspire young women to pursue physics in college.

Graduate Students ▾

HigherEd Faculty/Staff ▾

K-12 Educators ▾



Wiki Scientist

Put your knowledge and expertise into action by taking an APS Wiki Scientist Course. You will learn how to edit and update Wikipedia pages and Wikidata entries in order to improve the public's access to physics knowledge, raise awareness of the accomplishments of marginalized groups within physics, and grow your science communication skills.

Graduate Students ▾

Undergraduate Students ▾

HigherEd Faculty/Staff ▾

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