

Penn State STEM Education Outreach Opportunities

A comprehensive listing of outreach opportunities provided by Penn State University.

This is an evolving document and includes, but not limited to, many opportunities offered at the University.

(ES – Elementary MS – Middle School HS – High School UGS – Undergraduate Students GS – Graduate Students PD- Professional Development)

Penn State	Outreach Domains/Target Audience				
Education					
	Community & General Public	K-12 Students	K-12 Educators	Higher Education	Industry & Workforce
Penn State Center for Science & the Schools College of Education		Young Scholars Program HS 6 week summer research experience with PSU STEM researchers Kid Wind Challenge ES, MS, HS interdisciplinary wind turbine design challenge	Academic Year Workshops One-day PD workshops integrating STEAM Summer Workshops Week long PD workshops Research Experiences for Teachers 6 week summer research experiences with PSU STEM researchers and industry, including PD to integrate classroom research projects	Broader Impacts Resources and Support Faculty resource to imbed broader impacts into research grants Navigate Education in PA Database Database to help faculty explore education entities throughout PA Host a RET 6 week research experience for teachers GS Transferable Skills	PIPELINE in STEM Industry, School District, PSU Commonwealth Campus program to integrate science and engineering practices, 21 st century skills, and research practices into schools Host a RET Host a 6 week research experience for a teacher in industry
Agricultural Sciences					
	Community & General Public	K-12 Students	K-12 Educators	Higher Education	Industry & Workforce
Penn State Agriculture and Environment Center College of Agricultural Sciences	Community Watershed Engagements Working with local residents at specific watershed areas to bring awareness and adopt	Community Watershed Engagements ES, MS, HS Stream teams and 4-H club projects with specific watershed areas		Engaged Scholarship UGS, GS Student engaged opportunities with watershed management, internships, exposure to careers	Research and Extension Conservation tools and training for practitioners

	watershed management practices				
Penn State Northeast Region for Rural Development College of Agricultural Sciences	<p>Community Capacity Building Resources, trainings to assist residents of the Northeast rural areas</p> <p>Local and Regional Food Systems Analysis, training and assistance with nutrition and food safety</p> <p>Training and Conferences</p>			<p>Resources for Researchers Economic resources, articles, and research on sustainable community development</p> <p>Trainings and Conferences</p>	<p>Resources for Practitioners Emphasizing entrepreneurship and other resources for rural areas</p> <p>Local and Regional Food Systems Analysis, training and assistance with nutrition and food safety</p> <p>Trainings and Conferences</p>
Northeast Woody/Warm Season Biomass Consortium College of Agricultural Sciences	<p>Webinars</p>		<p>Teacher Summer Workshops MS, HS Teachers Week long PD workshops at PSU and WVU</p>	<p>Undergraduate Bioenergy Scholars Program UGS summer research experiences with researchers in bioenergy</p> <p>Graduate Distance Education Program Scholarship opportunities with bioenergy courses</p>	<p>Short Courses for biomass energy industry</p> <p>Willow Equipment Access Program equipment trainings and loan program for willow growers</p>
Penn State Center for Pollinator Research College of Agricultural Sciences	<p>Educational Opportunities and family events Great Insect Fair, Wings in the Park, Arbor Day and more!</p>				<p>Resources for Beekeepers Field guides, bee keeping courses and more</p>
Penn State Center for Private Forests College of Agricultural Sciences				<p>Undergraduate and Graduate research and outreach projects</p>	<p>Forest Landowner natural resources, conferences, and legacy planning</p>

<p><u>Penn State Center for Professional Personnel Development</u> College of Agricultural Sciences & College of Education</p>			<p><u>CASE Institute:</u> Ag teachers week-long summer PD workshop</p> <p><u>ACES:</u> Ag teachers PD Workshops</p> <p><u>State Legislative Leadership Conference:</u> Ag teachers PD Workshops</p> <p><u>DIY Professional Development:</u> Series for Ag Educators</p>	<p><u>Global Teach Ag! Initiative</u> PD, K-12 consulting, evaluations of global student learning initiatives</p>	
<p><u>Penn State Center for Turf grass Management</u> College of Agricultural Sciences</p>	<p><u>Home Lawns</u> how to develop and grow, renovation, managing home lawn resources, pest management control</p> <p><u>Plant ID</u> identification of plants related to turf grass industry</p> <p><u>Diagnostic and Testing Services</u> water quality, soil testing, disease diagnosis, etc.</p>				<p><u>Professional Turf Grass Management</u></p> <p><u>Cultivar Evaluations</u></p> <p><u>Athletic Fields</u></p> <p><u>Golf Courses</u></p> <p><u>Diagnostic and Testing Services</u> water quality, soil testing, disease diagnosis, etc.</p>
<p><u>Penn State Schatz Center for Tree Molecular Genetics</u> College of Agricultural Sciences</p>				<p><u>Undergraduate Research Projects</u></p> <p><u>Post Doc Fellowship</u></p> <p><u>Visiting Scholars Program</u> visitors to engaged in research, short-term</p>	

				projects from 3 months to 3 years	
Arts and Architecture					
	Community & General Public	K-12 Students	K-12 Educators	Higher Education	Industry & Workforce
Penn State College of Arts and Architecture Overview	Marcellus By Design educational workshops, seminars to better understand Marcellus Shale Institute for Arts and Humanities Events	Architecture and Landscape Architecture Camps HS Week-long residential camp Visual Arts Camp HS Week-long residential camp		Energy Efficient Research Group UGS, GS projects engaging students in designing energy efficient housing Arts and Design Research Incubator funding, technical support, and workspace for high impact arts and design projects Borland Project Space workspace for arts research	
Penn State Center for the Performing Arts College of Arts and Architecture	Events	School-Time Matinees ES, MS, HS	School-Time Matinees i-STEAM PD workshops with CSATS with field trip funding support	In-Class Experiences Infusing arts experiences into UGS and GS classes	
Communications					
	Community & General Public	K-12 Students	K-12 Educators	Higher Education	Industry & Workforce
Science Communication Program	Public Communication Campaign Strategy & Implementation Campaign Evaluation			Faculty and Graduate Student Media Training Research Support Networking & Collaboration	Alumni Outreach Strategic Communication Partnerships
Earth and Mineral Sciences					
	Community & General Public	K-12 Students	K-12 Educators	Higher Education	Industry & Workforce

<p>Earth and Mineral Sciences Overview</p>	<p>Lecture Series Community lectures in mineral engineering</p>	<p>Weather Camps HS Week-long residential camps</p>			<p>PA Drilling and Blasting Conference for industry professionals</p>
<p>Penn State Sustainable Climate Risk Management Earth and Environmental Systems Institute (EESI) Earth and Mineral Sciences</p>				<p>Research Experiences for Undergraduates and Recent Graduates</p> <p>Conferences, Workshops and Seminars</p> <p>Summer School on Sustainable Climate Risk Management GS and Post Docs Residential PD Workshops</p>	
<p>Penn State Marcellus Center for Outreach and Research Earth and Environmental Systems Institute (EESI) Earth and Mineral Sciences</p>	<p>Marcellus By Design educational workshops, seminars to better understand Marcellus Shale</p>				<p>Top Courses for Regulators and Policy Makers for Oil and Gas Industries</p>
Engineering					
	Community & General Public	K-12 Students	K-12 Educators	Higher Education	Industry & Workforce
<p>Engineering Overview</p>		<p>Engineering Ambassadors MS, HS Connect students with engineering opportunities and explore career fields</p>	<p>Engineering Ambassadors MS, HS Connect students with engineering opportunities and explore career fields</p>	<p>Engineering Student Organizations UGS, GS Academic Engineering Organizations for student engagement</p>	<p>Educational Opportunities Partner with UGS students on first year and capstone projects</p> <p>Engineering Professional Development PD for Engineering Professionals – short courses, seminars, workshops etc.</p>

<p><u>Center for Engineering Outreach and Inclusion</u> Engineering</p>		<p><u>Girl Scout Engineering Workshops</u> ES, MS, HS One-day workshops to earn engineering badges for all levels</p> <p><u>Make the Machine Engineering Camp</u> HS One week summer camp for girls</p>		<p><u>Engineering Ahead</u> UGS Six summer programs to prepare underserved and underrepresented students in engineering</p> <p><u>Multicultural Engineering Program</u> UGS Bridge programs, workshops, seminars to prepare underserved and underrepresented students in engineering</p> <p><u>REU Programs</u> UGS Research experiences for undergraduates</p>	
<p><u>Facilities Engineering Institute</u> Engineering</p>					<p><u>Workshops</u> HVAC, Electrical, Boiler Plant and Water for interested professionals</p>
<p><u>Larson Transportation Institute</u> Engineering</p>			<p>GREATT Resources With CSATS, curricula resources available from K-12 Education Outreach program</p>	<p><u>GS Research Opportunities</u></p> <p><u>Student Employment</u> GS student projects</p> <p><u>Research Facilities</u> Faculty research facilities for a variety of transportation testing</p>	<p><u>Continuing and Distance Education</u> For transportation professionals</p>
<p><u>Leonhard Center</u> Engineering</p>				<p><u>Assessments and Instructional Support</u> For faculty and graduate assistants</p> <p><u>Communications</u> UGS, GS</p>	

				<p>Supports in communicating research through assertion-evidence approaches</p> <p>Faculty Workshops</p> <p>Teaching Intern Program</p> <p>UGS</p> <p>Working with faculty to become a teaching intern during junior year</p>	
<p>Center for Acoustics and Vibrations Engineering</p>				<p>Workshops, Seminars and Short Courses</p> <p>UGS, GS, Faculty</p>	<p>Workshops, Seminars and Short Courses</p> <p>Corporate sponsors, international liaisons, and government liaison opportunities</p>
<p>Center for Innovative Sintered Products Engineering</p>					<p>Workshops, Seminars and Short Courses</p> <p>for industry professionals</p>
<p>Center for Health Organization Transformation Engineering</p>				<p>Workshops for Academia and Industry</p> <p>Faculty workshop with industry</p>	<p>Workshops for Academia and Industry</p> <p>Industry workshop with academia</p>
<p>Center for Nanotechnology Education and Utilization Engineering</p>			<p>Nanotechnology Video Modules</p> <p>K-12 curricula resources</p> <p>Secondary Education Outreach Programs</p> <p>K-12 educator workshops and resources</p> <p>Nano4me workshops and webinars</p>		<p>Industry tools for hiring nanotechnology graduates</p> <p>Nanofabrication Workshops for Industry</p>

Electro Optics Center Engineering		Sea, Air and Land Challenge HS Student challenge in robotics			
Northern Mid-Atlantic Solar Education and Resource Center Engineering	Webinars		Curricula Resources For K-12 Teachers		
Radiation Science and Engineering Center Engineering	Tours Breazeale Nuclear Reactor for public		Demonstrations and Experiments for school groups inexperienced or experienced in nuclear science PD Workshops with CSATS also available	Demonstrations and Experiments UGS and GS opportunities with coursework	
Health and Human Development					
	Community & General Public	K-12 Students	K-12 Educators	Higher Education	Industry & Workforce
Health and Human Development Overview	PA Nutrition Education TRACKS Program Behavioral and nutritional support for low-income families The Metabolic Kitchen and Children's Eating Behavior Laboratory Research studies for children's nutritional behaviors			Penn State Diet Assessment Center For assistance on grant proposals and research studies for faculty	
The Center for Childhood Obesity Research Health and Human Development	Community Outreach Funfest event, Head Start Health Education, Green smoothie demos		Green Smoothie Demos Nutritional program for local schools		
Center for Healthy Aging Health and Human Development	Community Activities Experience club, lecture series, and more			Student Resources UGS Events, workshops, and resources for PSU undergraduates	

				Faculty Resources funding support, proposal support, community project assistance	
The Methodology Center Health and Human Development				A Taste of Methodology Support for social science research for faculty Prevention and Methodology Training GS, post docs, and researchers	
Pennsylvania Office of Rural Health Health and Human Development				Continuing Education Conferences, workshops, events for students and faculty	Swimming Pool Pesticides Program For health professionals Farm Worker Protection Program For agricultural professionals Rural Hospital and Health systems Initiatives For rural hospital professionals Continuing Education Conferences, workshops, events for healthcare professionals
Information Science and Technology					
	Community & General Public	K-12 Students	K-12 Educators	Higher Education	Industry & Workforce
IST Overview		iTECH Academy Summer Camps MS, HS		Undergraduate Research Opportunities	Personal and Small Business Security Systems

		one week summer camp workshops		Graduate Research Opportunities	short courses for small business owners
Center for Enterprise Architecture IST					IST Consulting Solutions Problems engage with PSU IST Students with government and corporate organizations to engage students in real world projects
Eberly College of Science					
	Community & General Public	K-12 Students	K-12 Educators	Higher Education	Industry & Workforce
Eberly College of Science Overview		Summer Experiences in the Eberly College of Science HS Six week program for low income students	Penn State Research Experience for Teachers in Interdisciplinary Materials and Nanoscience Six-week research program with applications in bio-engineering, chemistry, electronics, materials science, optics, optoelectronics, physics, and life sciences.	Faculty Broader Impacts Resources Faculty resource to imbed broader impacts into research grants Science Club Organizations	
Astronomy and Astrophysics Eberly College of Science	Astrofest Elderhostel Week long astronomy For 55 + community		Field Trips Planetarium Field Trips Teacher Workshops week long summer workshops		
Penn State Science-U Eberly College of Science	Exploration Nights community, school district, and PSU Eberly College of Science offers science exploration nights	Summer Camps ES, MS, HS Week long residential and non-residential summer science camps	Do It Yourself Resource Center Special Science Events and Visits	Student Volunteering Opportunities UGS, GS	

		Do It Yourself Resource Center Expanding your Horizons STEM Career for Girls Workshop MS, HS One day workshop for female students	Tours of Eberly College for teachers and students	Student Employment Opportunities UGS, GS	
Office of Science Engagement Eberly College of Science				Summer Undergraduate Research UGS Student Education Abroad Programs UGS, GS Student Career Programs UGS, GS	
The Center for Excellence in Science Education Eberly College of Science				Faculty Resources to support teaching efforts Learning Assistance Program to support UGS students in large courses	
Educational Equity					
	Community & General Public	K-12 Students	K-12 Educators	Higher Education	Industry & Workforce
Penn State Educational Equity Overview	Office of Veterans Programs	Upward Bound HS Support for students transitioning into higher education Upward Bound Math and Science HS		Multicultural Resource Center Student Disability Resources	

		<p>Academic year workshops and six week long summer workshops for students from underrepresented and underserved populations</p> <p>Upward Bound Migrant HS</p> <p>support for students from migrant farmwork backgrounds transition into higher education</p>			
Interdisciplinary Institutes & Centers					
	Community & General Public	K-12 Students	K-12 Educators	Higher Education	Industry & Workforce
Applied Research Laboratory				<p>Undergraduate Research Opportunities</p> <p>Graduate Research Opportunities</p> <p>Bio Acoustics Summer School GS</p> <p>Week long summer workshop for graduate students in marine bio acoustics</p> <p>Summer Faculty Research Program To engage with PSU scientists and engineers with ARL</p>	Navigation Short Courses
Clinical and Translational Science Institute	Community Engagement Consultations			<p>Consultations</p> <p>For research purposes involving community and healthcare industries</p>	<p>Consultations</p> <p>for research purposes involving community and healthcare industries</p>

	Community Collaboration Network Avenue to engage with researchers at Penn State			Education and Workforce Development GS, Post Docs, Junior Faculty Transitioning programs to the clinical sciences workforce Community Collaboration Network avenue to engage with community on research	Education and Workforce Development for early career professionals transitioning to the clinical sciences workforce
Institute for CyberScience				Undergraduate Research Experience 10 week long summer research experiences Lecture series Internship Opportunities UGS, GS	Lecture series
Materials Research Science and Engineering Center		Nano Activities for Kids	Research Experiences for Teachers Program Six week summer research experience Nanoday Teacher Workshop 6-12 grade teachers one day academic year workshop on nanotechnology	Undergraduate Research Opportunities Graduate Student Opportunities PD, outreach and community building activities	Industry Opportunities Materials Day, Office of Technology Management, and interdisciplinary project work with PSU students Women in STEM Mixer
Institute of Energy and the Environment				Research Database integral network of researchers involved with PSIEE across PSU	Collaborate with PSIEE for industry professionals
The Polar Center			Polar Day		

			For teachers and students to engage with polar research at PSU		
<u>Huck Institutes of the Life Sciences</u>				<u>Seminars</u> UGS, GS, Post Docs, Faculty Seminars involving life science research <u>Conferences and Workshops</u> For faculty	<u>Conferences and Workshops</u> For life science researchers and professionals
<u>Materials Research Institute</u>	<u>Millennium Cafe</u> Talks engaging real world research open to public			<u>Millennium Cafe</u> Talks engaging real world research open to public <u>PPG/MRI Research Experiences for Undergraduates</u> six week summer research experiences	<u>Millennium Cafe</u> Talks engaging real world research open to public <u>Workshops</u> For engineering and other industry professionals <u>Industry Partnerships</u> Collaborations with Materials Research Institute
<u>Radiation Science and Engineering Center</u>	<u>Open House Events - Parents and Families weekend</u> (Penn State Alumni Association)	<u>Field Trips - educational activities, tours</u>	<u>Field Trips - educational activities, tours</u>	Engaged scholarship opportunities, internships, outreach student clubs, undergraduate and graduate class support, volunteering	Conferences, workshops, professional development
<u>Sustainability Institute</u>	<u>Tours and Demonstrations</u>	<u>Tours and Demonstrations</u>	<u>Tours and Demonstrations</u>	<u>Green Paws</u> Faculty, staff Supporting ways to increase sustainability <u>Eco-Reps</u> UGS, GS	

				<p>Paid positions to support sustainability throughout campus</p> <p>Living Lab student engagement projects through campus facilities and locations</p>	
The Schreyer Institute for Teaching Excellence				<p>Provide pedagogical support to any staff, faculty, student, or postdoc who teaches Penn State students at any Penn State campus.</p>	
Rock Ethics Institute	<p>Lecture Series Ethics in science and engineering research open to public</p>			<p>Lecture Series Ethics in science and engineering research</p>	
Penn State Extension					
	Community & General Public	K-12 Students	K-12 Educators	Higher Education	Industry & Workforce
Penn State Extension Overview Resources	<p>Natural Resources Water, forestry, natural gas etc. extension research for use in the community</p> <p>Community and Business Ag alternatives, farming resources, economic development, resources</p> <p>Animals</p> <p>Plants and Pests</p> <p>Food and Health</p> <p>Youth and Family</p>	<p>Summer Youth Camps Residential summer camp for students</p> <p>Stream Teams</p> <p>4-H Animal Projects</p> <p>Field Days</p>	<p>Wildlife Outreach Center Teacher Resources</p> <p>Food and Nutrition Curricula for Teachers</p> <p>4-H After School Club Resources</p>	<p>Collegiate 4-H</p>	<p>Natural Resources Water, forestry, natural gas etc. extension research for use in industry</p> <p>Community and Business Ag alternatives, farming resources, economic development, resources</p> <p>Animals</p> <p>Plants and Pests</p> <p>Food and Health</p>
Penn State Extension, 4-H Youth Development	Penn State Extension has an office in every	4-H reaches youth ages 5-18 through multiple	For those teachers using 4-H curriculum in the	Not applicable.	Not applicable.

	<p>Pennsylvania County providing support for the 4-H program. Families who are interested in having their children join the 4-H program are able to contact those counties.</p>	<p>delivery modes including 4-H clubs, afterschool clubs, residential and day camp, and local events and activities. Information for each county's Penn State Extension Office.</p>	<p>schools, we do offer K-12 educator workshops. The most common workshops are on embryology, Meet the Plants, and Ag Adventures. However, some counties do offer other workshops based on available curriculum</p>		
Penn State Outreach					
	Community & General Public	K-12 Students	K-12 Educators	Higher Education	Industry & Workforce
Arboretum at Penn State	<p>Events Educational Programs, tours, special events</p>	<p>Childhood's Gate Children's Garden</p>	<p>Educational Programs Avian Education Program, Childhood's Gate Children's Garden, Arbor Day Field Trips</p>	<p>Research UGS, GS, Post Docs, Faculty Research opportunities for students and courses</p>	
Shaver's Creek	<p>Public Programs and Events Festivals, nature walks, meet the creek weekends</p>	<p>Summer Camps Age 4-15 One day to week long summer nature camps Kids Corner Two hour engagement activities for youth Outdoor School for Teachers ES Four day residential program for students to engage in outdoor experiences</p>	<p>Field Trips Traveling Naturalist Programs bring wildlife to your classroom! Courses and Workshops For environmental education educators</p>	<p>Graduate Student Opportunities Aurora Outdoor Program UGS 3-credit course Research Initiatives UGS, GS, Faculty To engage in outdoor research projects with courses</p>	
Millennium Scholars		<p>Millennium Aspiring Scholars HS Seniors Seniors entering into higher education with</p>		<p>Millennium Scholars UGS Supportive and small cohort to assist students in STEM fields</p>	

		aspirations to become leaders in STEM		Faculty Mentors	
PA Space Grant Consortium		K-8 Student Opportunity Resources 9-12 Student Opportunity Resources	K-12 Teacher Workshop Resources	Undergraduate Opportunities Scholarships, fellowships, internships Fellowship Opportunities Post docs, Faculty	
WPSU	Creative Group High impact media education projects Community Events education outreach events for kids and families		WiSci Profiles for teachers and students to engage with women in STEM fields	Internships UGS, GS Media Sales Research dissemination, video projects	
Museums					
	Community & General Public	K-12 Students	K-12 Educators	Higher Education	Industry & Workforce
Matson Museum of Anthropology Liberal Arts	Events Tours, Collections and Exhibits		Field Trips Tours, Collections and Exhibits	Student Volunteers and Internships UGS	
EMS Museum and Art Gallery Earth and Mineral Sciences	Tours, Collections and Exhibits Special Programs and Events Olli Continuing Education Programs	Tours, Collections and Exhibits "Shake, Rattle & Rock" Annual Event Nittany Mineralogical Society Junior Education Day	Tours, Collections and Exhibits "Shake, Rattle & Rock" Annual Event Nittany Mineralogical Society Junior Education Day	Senior Theses Projects and Exhibits Research Loans and Projects Internships	
Palmer Museum of Art Arts and Architecture	Events Tours, Exhibits, Collections, Collections database		Field Trips Tours, Exhibits, Collections, Collections database	Internships UGS, GS	
Frost Entomology Museum Agricultural Sciences	Events Tours, Collections and Exhibits		Field Trips Tours, Collections and Exhibits	Loans to researchers and faculty	

<p>Pasto Art Museum Agricultural Sciences</p>	<p>Events Tours, Collections and Exhibits, Ag Progress Days</p> <p>Volunteering Opportunities</p>		<p>Field Trips Tours, Collections and Exhibits Teacher workshops with CSATS and Ag in the Classroom also available.</p>		
Penn State Campus Opportunities					
	Community & General Public	K-12 Students	K-12 Educators	Higher Education	Industry & Workforce
<p>Penn State Abington</p>		<p>Kids & Teen College Summer Camps Week long summer camps for students in grades 3-12</p>			
<p>Penn State Altoona</p>		<p>Penn State Altoona Kids' College Summer camps - Week long non-residential summer STEAM camps.</p>			
<p>Penn State Wilkes-Barre Continuing Education</p>	<p>Summer Youth Program, Academic enrichment and athletic day camps for children grades 1-3</p>	<p>Women in the Sciences and Engineering (WISE) 3-day program for young women in grades 6-8 that have an interest in exploring science, technology, engineering and math (STEM) careers.</p>	<p>Programs for Educators - Graduate Credit Courses For more information on graduate education courses contact us at (570) 268-7777 or psnortherntier@psu.edu. Penn State is an approved Act-48 provider.</p>		