

## NWABR Volunteer Opportunities

### **Volunteer for NWABR**

*Our outreach programs rely on the dedication of our volunteers. We need your assistance in order to strengthen and support life science education in our region. Whether you have a few minutes to comment on middle school essays or wish to have an intern in your lab, we need your assistance!*

### **Speakers' Bureau**

The Speakers' Bureau brings volunteer biomedical scientists, patients, and other experts into classrooms and community venues to talk about their own work, the process of science and scientific careers. The Bureau benefits our members by creating opportunities to highlight work in which they are proud, to network with colleagues and to ensure the pipeline of incoming scientists. The scientists hail from diverse regional companies, academic institutions, and other organizations, dynamically representing their passion for research and the wealth of career opportunities in the Northwest region. This premier database and matching service coordinates requests and identifies the best life sciences speaker for the audience, connects the speaker and requestor, follows up with both parties, and evaluates their experiences. The most often requested broad topics include cancer, genetics, HIV/AIDS, disease, and careers.

### **Training Opportunities**

We offer biennial symposia and small group editing workshops to train scientists to present their research to public audiences. By attending the symposia and workshops speakers will more effectively prepare and present scientific information for a variety of public audiences, be equipped with talking points and resources on difficult questions encountered in translational research and set aside time to practice key presentations with input from colleagues.

### **Volunteer Opportunities**

**Speaker:** Prepare and present talks and/or hands on activities to students (grades 8-16) and members of local community groups on specific requested topics. Learn how to increase the impact of your presentation in one on one or group workshop trainings.

**Time commitment:** Each presentation ranges from 20 minutes to 1.5 hours.

**Setting:** School, workplace or community setting

## NWABR Volunteer Opportunities

### Science Cafes

NWABR operates several sciences cafes, inspired by Café Scientifique in Europe, to engage teen and adult audiences in exploration of the latest issues in science and technology. These informal programs not only demonstrate the intensive integration of research into our communities but provide the public with a forum to debate research issues and ask questions in a relaxed setting.

#### Junior Science Cafe

Inspired by Europe's Café Scientifique, the Jr. Science Café is an informal gathering that allows local scientists to meet and discuss hot topics in biomedicine with high school students. Organized by students, for students, the Garfield High School Science Café is Seattle's first such opportunity to enrich student science knowledge outside the classroom using this novel approach.

#### Volunteer Opportunities

**Café speaker:** Prepare and present talks and/or hands on activities to students (grades 9-12) on specific requested topics. Learn how to increase the impact of your presentation in one on one or group workshop trainings.

**Time commitment:** 20 minute to 1 hour presentations

**Setting:** School

#### Science Cafes in Northern Idaho

~ Science on Tap Coeur d' Alene

~ Sandpoint Science Café

Building support for biomedical research, NWABR highlights the brightest scientists and more comprehensively connects our member institutions with the community through the development and coordination of science cafes in Northern Idaho.

#### Volunteer Opportunities

**Café speaker:** Prepare and present talks and/or hands on activities to members of local community groups on specific requested topics. Learn how to increase the impact of your presentation in one on one or group workshop trainings.

**Time commitment:** 20 minute to 1 hour presentations

**Setting:** Community location

# NWABR Volunteer Opportunities

## Student Bio Expo

### Engaging Future Scientists through Education

The Student Bio Expo is an award-winning, school year-long program that connects 375 students from over 20 high schools in the Puget Sound region to approximately 250 adult volunteers in the greater scientific community. With the help of mentors, students from a wide range of demographic backgrounds demonstrate their understanding of biotechnology and biomedicine in ways that suit their interests and talents. At the Expo event in May, students can enter scientifically-based projects in categories as diverse as fine arts, creative writing, 3D molecular model building, dance, multimedia, music and traditional research. By providing mentor support and drawing on the students' own creativity and interests, the program seeks to engage all students in science.

This distinctive program, now in its tenth year, showcases many of our region's strengths through the partnerships built between NWABR and biotechnology organizations, educational institutions, research facilities and voluntary health agencies.

### Volunteer Opportunities

**Expo Mentor:** Assist students in choosing their Expo topic, finding valid resources, deciphering scientific articles, and structuring their project paper and bibliography. Communicate with students via e-mail, visit them in school, meet offer them a job shadow, work with them in your laboratory or any combination which works best for you.

**Time Commitment:** 1-15 hours a month; October - April

**Setting:** Virtual, in-school, at your place of work, or other public settings

**In-school Mentor Coordinator:** Spend time in a high school classroom and assist an Expo teacher. Get to know the students and their mentors! Coordinate 4-5 mentor class times with the teacher, mentors and students in collaboration with the NWABR Expo Mentor Coordinator, other NWABR staff. Help students keep track of Expo deadlines, understand their category requirements, and compile their final projects.

**Time commitment:** 2-6 hours a month October - April

**Setting:** School

**Readers of Student Papers:** Read 3-4 student papers (5-10 pages each) and provide valuable feedback for students on paper format. This is a great volunteer opportunity for anyone with a good understanding of the written English language. You do not need to be a scientist!

**Time commitment:** Read and comment on 3-4 papers sometime in the spring.

**Setting:** Virtual

**Reader Coordinator:** Work with a particular teacher or teachers to collect all student rough-drafts and redistribute them to assigned readers. Communicate with readers and answer any questions, collect all papers from readers and return them to the teacher or students.

**Time commitment:** 5-10 hours one month in the spring.

**Setting:** Virtual

**Project Coordinators:** Help collect student projects from teachers and redistribute them for Expo judges.

**Time commitment:** 2-5 hours a day April 19-23<sup>rd</sup>.

**Setting:** NWABR Offices

**Expo Judges:** Connect with other science professionals, interview Expo students, and determine category winners! You will need to be available for an afternoon prejudging session and on the day of the Expo. Mentors are welcome to be judges in a category other than the one chosen by the mentee.

**Time commitment:** Read 4-6 student projects, attend a 2 hour prejudging session (May 13, 2010) and all day Expo (May 24, 2010)

**Setting:** Meydenbauer Center, Bellevue, at Event

**Day-of Volunteer:** Assist us in making the Expo event as smooth and fun as possible! Day-of volunteer opportunities can range from staffing the Expo welcome tables, assisting the judges, helping with production and performance set up, and greeting guests as they arrive.

**Time Commitment:** Approximately 5 hours, May 24, 2010

**Setting:** Meydenbauer Center, Bellevue, at Event

## NWABR Volunteer Opportunities

**Volunteer Fundraiser:** Assist us in our fundraising efforts for the event. Help us secure sponsorships and in-kind donations for the event.

### **NWABR's Fundraising Luncheon at the 10 Year Student Bio Expo – May 24, 2010**

NWABR's Annual Fundraising Event is a remarkable celebration that brings together hundreds of researchers, educators and students from across the Pacific Northwest region. Proceeds from the fundraiser support NWABR's signature education programs.

The May 24, 2010 Fundraising Luncheon will be held at Meydenbauer Center in Bellevue, WA. Rather than bring the high school Student Bio Expo winners to our traditional dinner, we have decided instead to bring the research community and all our sponsors and donors directly to the Expo to experience this award-winning program first-hand!

Event website: <http://nwabr.kintera.org/10annualfundraiser>

#### **Volunteer Opportunities**

Assist us in our fundraising efforts for the event. Help us secure sponsorships and in-kind contributions for the event. Be a first time table captain – host a table and invite your friends, colleagues, and neighbors to view the Expo and join you for our fundraising luncheon!

**Time Commitment:** Approximately 10 hours from Nov-May

**Setting:** Virtual

**Day-of Volunteer:** Help this event to run as smoothly as possible! Day-of volunteer opportunities can range from staffing the luncheon registration tables, helping with production and set-up, and greeting guests as they arrive.

**Time Commitment:** Approximately 5 hours

**Setting:** Meydenbauer Center, at Event

## NWABR Volunteer Opportunities

### “Collaborations to Understand Research and Ethics” (CURE)

#### **Ethics in Science Teacher Workshop**

Help secondary science educators learn about the biomedical research process! This program includes a week-long intensive residential summer background course focused on the research process and related ethical aspects, a second week of direct experiences in research labs of NWABR members, and two and one-half days of follow up during the school year, observing Institutional Animal Care and Use Committee (IACUC) or Institutional Review Board (IRB) meetings, participating in NWABR’s IACUC or IRB workshops, and engaging in program follow-up sessions. We are interested in exposing teachers to a broad overview of the research process, including the importance of animal models and human clinical trials.

#### **Research Fellows Program**

Student Research Fellows supports 10-12 high school students (especially those from backgrounds traditionally underrepresented in science), in a two-week paid summer fellowship. Students visit a broad variety of research institutions throughout the Seattle area and learn how new medical treatments are developed.

#### **Volunteer Opportunities**

**Site Coordinator:** Be a liaison between NWABR staff and your research facility. Help to coordinate site visits by teachers or students, as well as presentations and tours. If you have access to an IRB or IACUC Committee that would be interested in having teachers observe, help to coordinate teacher visits.

**Time Commitment:** Varies, approximately April – July

**Setting:** Your Workplace

**Presenter:** Provide a brief presentation (30-50 minutes) about your work to teachers or students and engage them in discussion, and/or meet with students over their lunch hour for informal networking opportunities. Help teachers and students understand the process of biomedical research, the challenges faced by scientists conducting biomedical research, as well as the excitement of scientific discovery. NWABR staff will provide resources to support you in developing a presentation and can meet in advance of the workshop to discuss appropriate topics. Scientists of color, as well as younger scientists, are especially encouraged to join us.

**Time Commitment:** 30-50 minutes, plus preparation time. Teacher program: July. Student program: late June – early July

**Setting:** Your Workplace

**Tour Guide:** Present a tour of your laboratory facilities, animal facilities, or clinical centers for teachers and/or students participating in the program. Highlight the research that is being done, its importance, and the types of science careers that are represented in the lab.

**Time Commitment:** 30-50 minutes, plus preparation time. Teacher program: July, Student program: late June – early July

**Setting:** Your Workplace

**Scientific Reviewer:** Review curricular materials being developed in conjunction with the CURE program for instruction in middle and high schools. These include lessons in general bioethics, research with animal models, responsible conduct of research, and clinical trials. Provide feedback to guide the scientific accuracy of the lessons.

**Time Commitment:** Approximately two hours per lesson reviewed.

**Setting:** Virtual

## NWABR Volunteer Opportunities

### **Bio-ITEST: New Frontiers in Bioinformatics and Computational Biology**

NWABR is partnering with high school teachers to develop curriculum for *Bio-ITEST: New Frontiers in Bioinformatics and Computational Biology*, a new program funded by the National Science Foundation designed to bring the exciting discipline of bioinformatics to high school teachers and students. Advances in genetic analysis methods such as DNA sequencing have led to exponential increases in the amount of biological data available and rapid changes in how biological information is used. The Bio-ITEST program is a model designed to provide secondary science teachers with the knowledge, skills, and resource materials to engage their students in the newly developing fields at this intersection of biology and information technology, ensuring that students will be able to participate in these important new workforce areas. The Bio-ITEST authentic student research project provides students the opportunity to analyze DNA sequences from diverse organisms, providing hands-on training in bioinformatics while reinforcing lessons in the Central Dogma of Molecular Biology. Primary partner organizations include Geospiza and Puget Sound Center for Teaching, Learning and Technology.

#### **Volunteer Opportunities**

**Presenter:** Give a guest lecture at a Professional Development Workshop. Exposure to scientists utilizing bioinformatics in their work enhances the professional development experience, offering teachers an opportunity to discuss the research process.

**Time Commitment:** 30-50 minutes, plus preparation time, February or August.

**Setting:** Your workplace

**Host a Professional Development Workshop:** Provide facilities for a portion of a teacher professional development at your research facility. Giving teachers the opportunity to see research enterprises first hand enhances their appreciation for the research process.

**Time Commitment:** Varies, 1 to 3 days. February or August.

**Setting:** Your Workplace

**Tour Guide:** Provide a tour of your research institution for teachers and career counselors. Tours offer a unique experience for educators to see research “first hand,” while highlighting the number of different careers available in the research setting.

**Time Commitment:** 30-50 minutes, plus preparation time, February or August.

**Setting:** Your Workplace

**Scientific Reviewer:** Review curricular materials being developed by the Bio-ITEST Program for use in high school science classrooms. Introductory lessons utilize bioinformatics resources to teach basic concepts in biology, while Advanced lessons draw upon new software and informatics resources to develop an authentic inquiry-based investigation specifically for advanced students. Provide feedback to guide the scientific accuracy of the lessons.

**Time Commitment:** Approximately two hours per lesson reviewed.

**Setting:** Virtual

**Student Mentor:** By partnering with a student as a scientific mentor for NWABR’s Student Bio Expo, you will be enriching the experience of the student while influencing the future expansion of the BioExpo. Assist students in choosing their Expo topic, finding valid resources, deciphering scientific articles and structuring their project paper and bibliography. For more information on the Student Bio Expo, see the Bio Expo volunteer opportunities.

**Time Commitment:** 1-15 hours a month; October - April

**Setting:** Virtual, School, Your place of work

## NWABR Volunteer Opportunities

### **“Biomedical Breakthroughs and My Life” Middle School Essay Contest**

Seventh and eighth-grade students from Washington, Oregon, Idaho and Montana choose topics that impact their lives – cancer treatments received by a relative, asthma medications that they are taking, or vaccinations given to their pet – and explain how animal models and/or human clinical trials have contributed to those biomedical treatments and cures. In 2009, nearly 500 students participated in this program.

Essays are judged by scientists and all students receive comments from the judges. Winners receive cash prizes and are invited to an Awards Day at a research facility with their parents and teachers. Previous host facilities have included the Allen Institute for Brain Science, Seattle Children’s Research Institute and Swedish Medical Center.

#### **Volunteer Opportunities**

**Essay Judge:** Researchers are invited to be judges of the essays. Essays are sent electronically and can be read at the judges’ convenience. Scoring criteria will be provided. Each judge provides positive and constructive comments for each essay. This is an easy and fun science outreach opportunity requiring only a few hours of time. Your passion for science and a few encouraging words can change the career plans of a student!

**Time Commitment:** Approximately 10-12 hrs over two weeks (March 12 – April 5). Two rounds of judging

**Setting:** Virtual

**Awards Day Host:** Research institutions and companies in Western Washington, Oregon, and Inland Northwest (Eastern Washington, Idaho, Montana) are invited to host the winning students, their parents and teachers at an Awards Day. Researchers from the host site present their research, lead tours and engage students in hands-on activities.

**Time Commitment:** Approximately 6 hours at the Awards Day, plus preparation time.

**Setting:** Your Workplace

**Classroom Speaker:** Researchers are invited to speak to classrooms about their research and the process of biomedical research. You serve as a career role model and can answer questions about finding resources for their essay topics. (See information about NWABR’s Speakers’ Bureau on page X.)

**Time Commitment:** Preparation and travel time. Classes are generally 50 to 90 minutes in length.

**Setting:** School

# NWABR Volunteer Opportunities

## Consumer Awareness

### Curriculum and Kit Loan Program

NWABR's "Consumer Awareness: Personal Care Products Safety and Labeling" curriculum introduces middle and high school teachers and students to the science behind cosmetic ingredients and the regulations related to the labels and safety testing. The curriculum focuses on standards-based materials that incorporate multiple aspects of science (biology, chemistry, toxicology, and math), research (experimental design) and ethics (safety testing on animals and humans)

A highlight of the four-lesson curriculum is the lotion-making activity and the opportunity for students to design inquiry labs. During the 2008-2009 school year, over 2,000 students in 20 different schools experienced this curriculum.

### Consumer Awareness Outreach: "Lotion, Labels and Lab" Workshops

In a two hour workshop, students or adults explore cosmetic labels, discuss the meaning of cosmetic claims, learn some basic emulsion chemistry and make their own lotion. This traveling workshop can be customized to the audience's interest and delivered anywhere in the greater Seattle area.

Workshops that have been requested in the past include after school programs, Expanding Your Horizons, and GEMS (Girls in Engineering, Math and Science) sponsored by AWIS,

### Consumer Awareness Outreach: Lotion Evaluation and Display

NWABR attends school family science nights, open houses and public science outreach events and invites the public to participate in our lotion evaluation activity. We give students and adults the chance to practice their critical thinking and evaluation skills just like laboratory scientists. People judge lotions made with single-ingredient changes to a basic lotion recipe. This activity is the foundation for discussing the role of scientists and the process of science in the development of consumer products and medical therapeutics.

## Volunteer Opportunities

**Kit Preparation and Refurbishing:** Preparing kit ingredients and supplies before and after classroom use.

**Time Commitment:** 2-3 hours per kit

**Setting:** NWABR Offices

**Workshop Assistant:** Volunteers are needed to oversee the lab stations and assist the participants in making lotion.

**Time Commitment:** Half hour before and after workshop; one and a half to two hours for the workshop

**Workshop Preparation:** Preparing and packing lab supplies and ingredients and copying handouts prior to each workshop

**Time Commitment:** 2-3 hours

**Activity Table Presenter:** Prepare and staff the NWABR activity table at science outreach events

**Time Commitment:** 1-2 hours for preparation of lotions and display; Two to four hours at the event

**Setting:** Event Location

## NWABR Volunteer Opportunities

### **Life Sciences Research Weekend (LSRW)**

Life Sciences Research Weekend is a three-day event in November co-presented by NWABR and Pacific Science Center. The public is invited to meet scientists and participate in hands-on activities presented by life sciences companies and research institutions from throughout Washington. Children and their parents get to see and experience first hand the excitement of research and the passion of scientists for the work they are doing. Through activities and exhibits created by local researchers, visitors gain an understanding and appreciation of the vibrant life sciences industry and career opportunities in our state.

#### **Volunteer Opportunities**

**Activity Table Volunteer:** Volunteers help prepare and pack activity materials; at the event, greet the public and engage them in hands-on activities.

**Time Commitment:** 3-4 hour shifts

**Setting:** Pacific Science Center

**Public Greeter:** For visitors to Pacific Science Center that are not aware of LSRW, you can provide a friendly smile and an invitation to visit the tables, participate in activities and meet a scientist

**Time Commitment:** 3-4 hour shifts – Nov. 2010

**Setting:** Pacific Science Center