



Fred Hutch Cancer Center

Partners in Science 2.0 @ Fred Hutch

Summer Research Experiences for Science Teachers

Applications close April 30th, 2024, 11:59 pm PST

Recommendation Forms due May 7th, 2024, 11:59 pm PST

Partners in Science 2.0 @ Fred Hutch (PS2@FH) is a paid two-summer program for secondary science educators seeking an in-depth, biomedical research experience at Fred Hutchinson Cancer Center. PS2@FH supports the professional growth of secondary science teachers and allows them to share insights about biomedical and cancer research with their students. At the same time, Partner teachers contribute to the scientific efforts within Fred Hutch research labs. Our South Lake Union campus is within commuting distance to many local school districts in the greater Puget Sound area.

We recommend that you visit the Partners in Science 2.0 @ Fred Hutch program website before applying to develop an understanding of the program. Before you apply, we also recommend that you review the application PDF on our website with a summary of the application questions. Please note that the PDF is a preview to be used for reference only. Please DO NOT fill out the preview and submit it in place of the online application. If you encounter questions or problems with the application, contact us at sep@fredhutch.org.

While PS2@FH is designed for life sciences teachers, it is open to other STEM teachers as well. Teachers who have completed the SEP summer professional development program are particularly encouraged to apply, although this is not a requirement. For more information on the PS2@FH and how it differs from our other professional development programs for science teachers, please visit our website.

PS2@FH applicants must be:

- A middle or high school teacher (Grades 6–12)
- Currently employed and teaching science courses
- Achieved a Baccalaureate degree in a scientific discipline (undergraduate major)
- Interested in learning more about biomedical research and related careers
- Available for the entire duration of the program, including two consecutive summers of full-time participation
- Available to travel to two conferences annually (August and January); financial support for conference travel is provided

In addition, please note that a social security number (SSN) or tax identification number (TIN) is required on intake forms.

Directions for Applying to the PS2@FH Program

1. Before you apply, we recommend that you review the application PDF which has a summary of the application questions. Please note that the PDF is for reference only.
1. Complete the online application. As part of the application, you will need to upload your resume and provide contact information for a person who will provide a recommendation on your behalf.
2. At the end of the application, it will ask you to review your answers. At the bottom of the review page, you must click “**Submit Application**” for your application to be submitted.
3. After submitting the application, an automatic email will be sent to your listed principal/school representative with a link to a Principal Commitment of Support form. Please let this person know to expect an email from us within 24 hours with a link to the form to complete. Ask them to check their spam and junk boxes if they do not receive the email. Please note that the recommendation form is only sent *after* you submit your application.
4. Once your application is submitted, you will receive a confirmation email within 24 hours. Please check your spam and junk boxes if you do not receive the email.
5. To be considered for the program, you must complete the online application and have the Principal Commitment of Support form completed by the person you identified by the deadlines published above. If you have concerns about meeting these deadlines, please reach out to the PS2@FH Program Manager Kristen Bergsman by emailing bergsman@fredhutch.org.
6. If you encounter questions or problems with the online application, contact us at sep@fredhutch.org.
7. Notifications of acceptance will be sent out in May 2024.

Personal Contact Information

First Name *

Last Name *

Nickname or preferred name

What pronouns do you use? (Optional)

Personal Email *

Confirm Email

This is the email we will use for correspondences about your application.

Home Address *

Street Address

Street Address Line 2

City *

State *

Zip Code *

Home Phone Number

 -

Area Code

Phone Number

Date of Birth

PREVIEW ONLY

mm-dd-yyyy



Date

School Contact Information

School Name *

School Address *

Street Address

Street Address Line 2

City *

State *

Zip Code

School Email *

Confirm Email

School Phone Number

(555)

-

555-5555

Area Code

Phone Number

Extension

Emergency Contact Information

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First Name

Last Name

Address (only if different from yours)

Street Address

Street Address Line 2

City

State

Zip Code

Emergency Contact Email

example@example.com

Emergency Contact Phone Number

 -

Area Code

Phone Number

Relationship to you

PREVIEW ONLY

How did you hear about this opportunity? Check all that apply.

- Fred Hutchinson Cancer Center Website
- Fred Hutchinson Cancer Center Social Media
- MJ Murdock Charitable Trust Website
- Local Educational Service District
- Administrator or Science Specialist
- Fellow Teacher/Colleague
- SEP electronic newsletter
- SEP Events (ex: Fall Kick Off)
-

This program is supported through generous funding from the M.J. Murdock Charitable Trust. Please know that the information obtained will be kept confidential. When reported, data will not identify any specific individual.

Do you work at a private/independent school, parochial school, or public school? *

- Private or Independent
- Parochial
- Public
-

What grade level do you currently teach? *

- Middle School
- High School
-

Which of these courses do you currently teach? (Select all that apply) *

- AP Biology
- IB Biology
- General Biology or Life Science
- Honors Biology
- Biotech
-

Estimate the OVERALL percentage of your students who qualify as an underrepresented minority in STEM as defined by the NSF (Hispanic or Latino/a, African American/Black, American Indian or Alaskan Native)? *

- 0-10% 10-20%
- 20-30% 30-40%
- 40-50% 50-60%
- 60-70% 70-80%
- 80-90% 90-100%
- Not sure/Don't know (please explain below)

Skills Inventory. Please indicate your familiarity and skill level in the following areas. Don't worry if you are not familiar with these items – it's a long list! *

No experience	Limited Experience	Some Experience	Moderate Experience	Strong Experience (Can independently
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		(Can handle simple tasks with guidance)	(Have done projects with supervision)	(Regularly work in this skills area / comfortable with most tasks)	handle tasks and/or have been a teacher/coach)
3-D printing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using bioinformatics tools such as BLAST	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using protein modeling/structure tools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working with model organisms (bacteria, yeast, flies, worms, zebrafish)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using molecular biology tools such as micropipettes, gel electrophoresis equipment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Making dilutions and solutions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using sterile technique (microbiology)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Analyzing data with spreadsheets	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Programming/writing code (please describe below)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Creating databases	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Entering/extracting database records using a graphical interface (such as Access or Filemaker)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Entering/extracting database records using SQL	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Doing clinical work (animals or human, please describe below)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cell culture	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conducting ELISA, PCR, and/or flow cytometry laboratory techniques	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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If applicable, describe computer programming or clinical research experience.

Why are you interested in the Partners in Science 2.0 at Fred Hutch Program? *

0/500

Please describe any previous experiences or interests that make you a particularly good candidate for a biomedical research partnership. *

0/500

Please describe your prior experience designing curriculum materials and/or piloting curriculum materials in your classroom. *

Type here...

0/500

How do you anticipate the Partners in Science 2.0 at Fred Hutch will benefit you, your courses, and your students? *

0/500

Have you previously gone through the Science Education Partnership (SEP) summer professional development program? *

- Yes
- No
- Other

Optional: Anything else you'd like us to know about you?

0/250

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Teacher Demographic Information

Gender:

- Female
- Male
- Non-binary
- Something else
- Prefer not to answer

How do you self-identify your gender? (Optional)**Ethnicity:**

- Hispanic or Latinx
- Not Hispanic or Latinx
- Prefer not to answer

Please select the category or categories that you identify with. Check all that apply.

- American Indian/Alaskan Native or Indigenous People of North America
- Asian
- Black/African
- Native Hawaiian/Pacific Islander
- White
- Prefer not to answer

How do you self-identify your race, ethnicity, and/or geographic heritage? (Optional)**Please indicate your selection below:**

- I am a veteran
- I am not a veteran
- I decline to answer

Voluntary Self-Identification of Disability

Form CC-305

OMB Control Number: 1250-0005

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Expires 05/31/2023

Why are you being asked to complete this form?

We are a federal contractor or subcontractor required by law to provide equal employment opportunity to qualified people with disabilities. We are also required to measure our progress toward having at least 7% of our workforce be individuals with disabilities. To do this, we must ask applicants and employees if they have a disability or have ever had a disability. Because a person may become disabled at any time, we ask all of our employees to update their information at least every five years.

Identifying yourself as an individual with a disability is voluntary, and we hope that you will choose to do so. Your answer will be maintained confidentially and not be seen by selecting officials or anyone else involved in making personnel decisions. Completing the form will not negatively impact you in any way, regardless of whether you have self-identified in the past. For more information about this form or the equal employment obligations of federal contractors under Section 503 of the Rehabilitation Act, visit the U.S. Department of Labor's Office of Federal Contract Compliance Programs (OFCCP) website at www.dol.gov/ofccp.

How do you know if you have a disability?

You are considered to have a disability if you have a physical or mental impairment or medical condition that substantially limits a major life activity, or if you have a history or records of such impairment or medical condition. Disabilities include, but are not limited to:

- Autism
- Autoimmune disorder, for example, lupus, fibromyalgia, rheumatoid arthritis, or HIV/AIDS
- Blind or low vision
- Cancer
- Cardiovascular or heart disease
- Celiac disease
- Deaf or hard of hearing
- Depression or anxiety
- Diabetes
- Epilepsy
- Gastrointestinal, for example, Crohn's disease, or irritable bowel syndrome
- Intellectual disability
- Missing limbs or partially missing limbs
- Nervous system condition for example, migraine headaches, Parkinson's disease, or Multiple sclerosis (MS)
- Psychiatric condition, for example, bipolar disorder, schizophrenia, PTSD, or major depression

- Cerebral Palsy

Please check one of the boxes below:

- Yes, I Have A Disability, Or Have A History/Record Of Having A Disability
- No, I Don't Have A Disability, Or A History/Record Of Having A Disability
- I Don't Wish To Answer

PUBLIC BURDEN STATEMENT: According to the Paperwork Reduction Act of 1995 no persons are required to respond to a collection of information unless such collection displays a valid OMB control number. This survey should take about 5 minutes to complete.

Lab Preferences

In the PS2@FH program, each Partner teacher will conduct biomedical research in partnership with a Mentor scientist. The Mentor scientist may be a faculty member, post-doc, staff scientist, graduate student, or other member of the host lab. Please read through the descriptions of host labs and research projects for 2024. Also visit the linked web pages within each lab description.

Rank your preference for each host lab, from 1 (most interested) to 3 (least interested). Please briefly explain your ranking for all three labs. Note that we cannot guarantee placement in these labs, but this will help us understand your interests and preferences.

Barry Lab:

[Kevin C. Barry, PhD](#) is an Assistant Professor in the Public Health Sciences Division at Fred Hutch. Dr. Barry studies how the immune system recognizes and responds to cancer. He aims to determine how innate immune cells recognize cancer and regulate immune responses to it. Dr. Barry previously identified a novel set of immune cells that regulate immune responses that protect patients from melanoma. The number of these cells in a patient's tumor can identify those patients who will benefit the most from immunotherapy. Dr. Barry and his team are learning more about the signals that control this set of innate immune cells in cancer. His goal is to generate novel therapies to increase cancer-killing immune responses and save lives from cancer. Dr. Barry has previously hosted a high school science teacher in his lab who investigated the regulation and function of Flt3L isoforms in melanoma tumor cells. He plans for a Partner teacher to continue this exciting new direction of research. Explore the [Barry Lab website](#).

Malik Lab:

[Harmit Malik, PhD](#) is Professor and Associate Director of the Basic Sciences Division at Fred

Hutch. Dr. Malik studies genetic conflict, the competition between genes and proteins with opposing functions that drives evolutionary change. His research could have implications for various diseases, from HIV to cancer. As part of this work, his team developed an approach for identifying genes that divide one species from another, which could help solve the riddle of how new species evolve. Dr. Malik also studies the evolutionary processes that drive our body's interactions with viruses, including contemporary scourges like HIV, as well as ancient viruses whose fossils litter our genome. With Fred Hutch colleagues, he has characterized the rapidly evolving interface between proteins on human cells and viruses that make us sick. This work has highlighted surprising deviations from "textbook" models of these interactions, revealing gene variants that could influence our susceptibility to infection. Dr. Malik has previously hosted a high school science teacher in his lab who investigated an Iris-like domesticated viral gene in mosquitoes and other non-dipteran insects. Explore the [Malik Lab website](#).

Salama Lab:

[Nina Salama, PhD](#) is Senior Vice President of Education, Professor in the Human Biology and Public Health Sciences Divisions, and Affiliate Professor in the Basic Sciences Divisions at Fred Hutch. Dr. Salama studies *Helicobacter pylori*, a stomach bacteria that infects half the world's population and is associated with ulcers and gastric cancer. Her team found that *H. pylori*'s unique corkscrew shape allows the bacteria to colonize the stomach by burrowing into the mucus lining, where it is protected from the acidic environment. They found a set of key proteins responsible for the bacteria's twisty form. *H. pylori* that lacks these proteins cannot effectively colonize the stomach, making these proteins possible new drug targets to prevent infection. Dr. Salama is trying to understand why only some people infected with *H. pylori* develop stomach cancer, and how genetic variations in the bacteria affect human disease and transmission. She also works to understand how a person's immune response to the bacteria influences the course of their infection. Dr. Salama has previously hosted two science teachers ([here](#) and [here](#)) in her lab who explored how point mutations on the N-terminus of CCmA regulate *H. pylori* cell shape. This line of research will be continued by a Partner teacher. Explore the [Salama Lab website](#).

Rank your preferences for a host lab below.

First Choice:

- Barry Lab
- Malik Lab
- Salama Lab

Second Choice:

- Barry Lab
- Malik Lab
- Salama Lab

Third Choice:

- Barry Lab
- Malik Lab
- Salama Lab

Please briefly explain your ranking for all three labs and help us understand your enthusiasm to join one of these labs (up to 500 words).

0/500

Resume Upload (PDF only)

Please upload a PDF of your resume.

Make sure that your resume contains the following information.

- Education experience
- Teaching experience with grade level(s) and subject(s)
- Current school with grade level(s) and subject(s)
- Professional development, continuing education, and inservice programs completed within the last five years

Attach Resume Here *

No file chosen

PDF only, max 2MB

Recommendation

Name of person who will give you a recommendation. The recommendation should be provided by a principal (preferred), department head, or someone in a similar role who can speak to your interests and abilities as well as your interactions with students. Please contact them to ask

permission prior to including them in your application. We will contact the named person by email with a request to complete a Principal Commitment and Support Form.

First Name *

Last Name *

Email of person providing recommendation. Please type carefully. *

Confirm Email

example@example.com

Please indicate your commitment to participate in the entire program if selected. *

- I understand that this program requires in-person attendance and full-time participation for two consecutive summers at Fred Hutch's South Lake Union campus. I also understand that there are additional follow-up dates/times during the school year that are required for the program, including participation at a required conference in January of each year. If I am accepted, I commit to attending the entire program and participating fully. I understand that the program involves intensive lab-based research, attendance at lab meetings, PS2@FH program meetings, and PS2@FH journal club meetings, completion of scientific communication projects, and participation in two conferences each year in August and January (financial support is available for conference travel). I understand that at the successful completion of two summers of research and at the discretion of the program manager, Partner teachers are eligible to apply for a supplemental classroom supply grant. I understand that the program requires a \$100 deposit to hold my place, which is refundable upon completion of the program. I understand that if I am accepted into the program but unable to meet the attendance/participation requirements, my participant payments may be prorated accordingly. I also understand that cancellations after June 1, 2024 will result in forfeiture of the deposit

Please verify that you are human *

I'm not a robot

reCAPTCHA
Privacy - Terms

Review and Submit

Review your answers on the next page. **Answers are not submitted until you click "Submit Application" on the next page.** Please press "Submit Application" only

once. There will be a delay while your materials are uploaded.

If your submission is successful, you will receive an email confirmation to your school email address. If you do not receive the email confirmation within 24 hours, check your spam or junk mail folder. If it's not there, or you have any other problems with this form, please contact sep@fredhutch.org.

Preview Answers

PREVIEW ONLY