

Section 1: Program Information & Overview

Note: Please note that you may return to this application to complete or change responses until you click submit as long as you use the same computer.

Deadline: Applications are accepted on a rolling basis. However, if you would like to be considered for the summer training, please submit your application as soon as possible. Our summer training is typically held over five days during the second half of July. If you are located in Portugal or Spain, please do not fill out this application and contact us [here](#) as there is a separate application process.

WHAT IS THE SMALL WORLD INITIATIVE?

Initiated at Yale University in 2012, the [Small World Initiative®](#) (SWI) is an innovative program that encourages students to pursue careers in science, increases scientific literacy, and addresses a worldwide health threat – the diminishing supply of effective antibiotics. It centers around an introductory biology course in which students conduct original research on soil samples in the hunt for antibiotic candidates. Since its inception, SWI has grown rapidly to include more than 300 schools across 41 US states, Puerto Rico, the District of Columbia, and 15 countries. During the 2015-2016 academic year, the full college curriculum was officially piloted at its first high school – The Hockaday School in Dallas, Texas. Thanks to this successful pilot, we have trained instructors from additional high schools to teach the program. We are currently working to expand SWI's impact and reach on a global scale and complete the missing links to allow SWI's discoveries to move forward into R&D programs.

Two Problems – STEM Deficit & Antimicrobial Resistance

First, there is a growing economic need for more STEM (Science, Technology, Engineering, and Math) graduates. In the US alone, it is estimated that an additional one million STEM graduates are needed to join the workforce over the next decade to meet economic demands. Yet, the number of students pursuing STEM degrees has been decreasing, especially among women and minorities (PCAST).

Second, there is growing worldwide consensus that antibiotic resistance is one of the most pressing medical challenges of the 21st century (UN, WHO). Without serious action by 2050, superbugs will kill more people than cancer and diabetes combined and result in 300 million premature deaths (Review on AMR). The loss of efficacy in existing antibiotics due to widespread antibiotic resistance is compounded by the increasing lack of investment in new antibiotic development by pharmaceutical companies.

Our Solution

SWI is an innovative program that inspires students in science and increases retention through immersion in hands-on laboratory and field research with real-world applications in introductory courses. As part of SWI, students isolate soil bacteria from their local environment in the search for novel antibiotics. This is particularly relevant since over two thirds of antibiotics originate from soil bacteria or fungi. Differentiating itself from traditional courses, SWI's biology course provides original research opportunities rather than relying on cookbook experiments with predetermined results. SWI's approach also provides a platform to "crowdsource" antibiotic discovery by tapping into the intellectual power of many student researchers concurrently addressing a global challenge and advances promising candidates into the drug development pipeline. This unique class approach harnesses the power of active learning to achieve both educational and scientific goals.

Current School Outreach

To date, over 20,000 students have taken SWI's introductory biology course. This year, the total number of participating schools has grown to more than 300 across 15 countries with SWI partners hosting training workshops in the US and abroad.

Projected Next Steps

- **School Expansion** – growing the program nationally and internationally
- **Advancing Historically Underrepresented Talent Pools** – focusing on projects that close the gap for women, minorities, and other talent pools historically underrepresented in STEM fields
- **Curriculum Development** – developing follow-on modules (e.g., chemistry, citizen science, innovative cultivation protocols, transposon mutagenesis, genome sequencing)
- **Building Collaborative Pipeline** – building partnerships to advance candidates into the drug discovery pipeline
- **Research** – advancing research and knowledge on important scientific subjects
- **Publishing** – sharing our educational and scientific impact
- **Opportunities** – expanding opportunities for students and faculty

For more information on the Small World Initiative, please visit: www.smallworldinitiative.org, follow us on Twitter [@Team_SWI](https://twitter.com/Team_SWI), or like us on [Facebook](https://www.facebook.com/Team_SWI).

WHAT ARE THE BENEFITS THAT THE SMALL WORLD INITIATIVE PROVIDES?

Acceptance into the Small World Initiative provides numerous benefits to Partner Instructors and their students.

Instructional Materials

- Regularly updated instructional materials that maintain a standard of excellence for teaching SWI's introductory biology course. This includes our Instructor Guidebook and Instructional Materials, Student Guide, and Research Protocols.

Training

- In-person weeklong training workshop for approved Partner Instructors with qualified trainers and engaging content

Advice and Assistance

- Access to experts to answer questions surrounding implementation
- Answers to FAQs

Student Opportunities

- Annual Student Challenge – Each November, we team up with the CDC, NIH, and the Sociedad Española de Microbiología for our [Do Something About Antibiotics Challenge™](#) to encourage students to do something about the antibiotic crisis.
- Continuously expanding pipeline of opportunities for students to present research, attend conferences and events, publish, receive recognition, be mentored, and apply for internships, fellowships, and jobs

Partner Instructor Opportunities

- Opportunities for Partner Instructors to participate on and lead SWI Committees (e.g., Science, Publishing, Training, Social Media/PR, Symposium)
- Participation in a large and dynamic community of professionals all teaching a cutting-edge course and working jointly on antibiotic development
- Awards and recognition of star Partner Instructors
- Mentoring for incoming Partner Instructors (Mentor Program)
- Continuously expanding pipeline of opportunities for Partner Instructor to publish, speak, lead, and collaborate with other Partner Instructors

Introductory Course to Increase STEM Majors & Impact Underrepresented Talent Pools

- SWI's introductory biology course is based on peer-reviewed research demonstrating that this model is more successful at encouraging students to pursue STEM majors (NSF, AAAS, PCAST). Further, it is particularly impactful on women and minorities, talent pools that are underrepresented in STEM fields. Evaluation results from 2013-2014, analyzed by an external evaluator at the LEAD Center at the University of Wisconsin-Madison's Center for Education Research, have been positive. In March 2016, the Journal of Microbiology & Biology Education published an article that supported our educational impact and found that our program improved students' lecture grades and critical thinking skills test scores.

Online Tools

- Use of an online database that allows students to input research data
- Curated website (smallworldinitiative.org), blog, Facebook groups and pages, YouTube Channel, Twitter, LinkedIn

Evaluation Tools

- Gold star instruments are provided to measure SWI's impact on students and to capture science outputs
- Publishing opportunities for Partner Instructors on innovative teaching
- Assistance with Institutional Review Board

Negotiated Pricing

- Negotiated discount pricing for PCR sequencing
- Negotiated arrangements for reduced pricing for certain laboratory equipment, materials, and testing (This may only be available in some countries.)

Marketing/PR

- Membership in an innovative global effort to combat one of the world's most pressing health challenges and participation in pipeline to discover new antibiotics
- Participating schools are featured on website

What are the Roles and Responsibilities of Being a SWI Partner Instructor?

Partner Instructors must agree to teach SWI's introductory biology course safely and with quality. Partner Instructors are also thoroughly encouraged to participate in the SWI community. This includes supporting SWI's overall goals and efforts and contributing requested materials, including class reporting (required), science outputs (optional), samples (optional), and student evaluations (optional). Participation on SWI's Committees is also welcomed.

Costs

While the Small World Initiative has worked hard to keep costs down, please note that we charge each participating high school an annual fee to help us offset our costs. This fee covers everything from training, material development, and tester strains to evaluation and program staff. The fee for the 2019-2020 academic year is \$15,000. This fee is not for profit and simply offsets our implementation costs. If your school does not have applicable funding and is not able to secure external funding, you may ask to be considered for a full or partial scholarship. In addition, please note that you should assess whether you have the necessary lab equipment to teach the course. The most expensive piece of lab equipment is the autoclave. Disposable lab supplies run between \$15-70 per student depending on the supplier. For more information on lab equipment and disposable supplies, please reference "What Does Your Lab Need" located [here](#).

Section 2: Contact Information

1. Applicant Information

First Name:

Last Name:

Title:

Department:

Email Address:

Phone Number:

2. School Information

School Name:

Address 1:

Address 2:

City/Town:

State/Province:

ZIP/Postal Code:

Country:

* 3. Type of Institution (Check all that apply)

- Public
- Private
- Charter
- International (non-US)
- All-girls
- All-boys
- Coed

Other (please specify)

* 4. How did you hear about the Small World Initiative?

* 5. Why do you want to join the Small World Initiative?

* 6. Please describe your availability for a five-day in-person training. (July and January)

Section 3: Educational Background and Expertise

* 7. Please describe your relevant educational background, degrees, and experience, which you think demonstrates your ability to effectively teach this course.

Relevant teaching and scientific experience may include:

- Experience in a research laboratory and working with environmental samples
- Relevant teaching experience and any relevant courses
- Relevant publications
- Relevant research experience
- Relevant conferences and capacity involved

[In lieu of writing out your responses, if you prefer, you may copy/paste a copy of your latest CV. If your CV is longer than 2 pages, please only include the most relevant sections.]

8. Please provide a link to any relevant websites (e.g., your LinkedIn profile page).

Section 4: Safety Standards Analysis

* 9. Do you have access to Biological Safety Level-1 or Biological Safety-2 facilities?

- BSL-1
- BSL-2
- No

* 10. Does your institution have a bio-safety officer?

- Yes
- No

If yes, please explain if you will meet with that person if accepted into the program on the optimal way to implement SWI.

* 11. Please describe any prior experiences that relate to your ability to execute this program with proper safety standards (e.g., any safety certifications or courses).

* 12. Do you commit to keeping up to date on and implementing any new safety protocols that SWI releases?

- Yes
- No

* 13. Please state any biosafety questions or concerns you have about teaching SWI.

Section 5: Implementation Questions

* 14. Desired date of implementation

	Term	Year
Date:	<input type="text"/>	<input type="text"/>

* 15. What are your goals for SWI at your institution? Please describe any learning goals and scientific goals.

* 16. Please list your personal goals for implementing this course and what you would consider as “successful.”

* 17. In what course context or level do you want to teach SWI at your institution? For examples of high school syllabi, please [click here](#).

	Length	Course Type
Course	<input type="text"/>	<input type="text"/>

Other (please specify)

* 18. What year students would be able to enroll in the course? Check all that apply.

- 9th grade students
- 10th grade students
- 11th grade students
- 12th grade students

* 19. How would SWI fit into your current curriculum? Would it replace or be inserted into an existing course? Would it be a new addition to the curriculum?

* 20. How many in-class hours per week and sessions would the students meet?

Hours

Sessions

Per week:

* 21. Approximately how many students do you expect would enroll in your course?

* 22. Please describe how many times you would like to teach the course.

- Just trying it
- Maybe once
- Indefinitely

* 23. Please describe any hurdles that exist for implementing SWI at your institution (e.g., whether you have institutional support, biosafety lab rating certification, facilities, timeline to approve new course, etc.) or any concerns that you have for implementing SWI.

* 24. Would other instructors at your institution assist with implementing SWI? If you already know who would be assisting you, please list their names and email addresses and describe their level of assistance.

* 25. While the Small World Initiative has worked hard to keep costs down, please note that we charge each participating high school an annual fee to help us offset our costs. This fee covers everything from training, material development, and tester strains to evaluation and program staff. The fee for the 2019-2020 academic year is \$15,000. This fee is not for profit and simply offsets our implementation costs. Does your institution have applicable funding or would it be able to apply to external funding sources for applicable funding? If not, please let us know if you would like to be considered for a scholarship. At this time, we have both full and partial scholarships available and can also assist in applying for grant funds. In addition, please note that you should assess whether you have the necessary lab equipment to teach the course. The most expensive piece of lab equipment is the autoclave. Disposable lab supplies run between \$15-70 per student depending on the supplier. For more information on lab equipment and disposable supplies, please reference "What Does Your Lab Need" located [here](#).

- My school has applicable funds or will be able to secure applicable funds.
- My school would need to be considered for a partial scholarship.
- My school would need to be considered for a full scholarship.
- Please indicate if your school will need help applying for funds and the size of a desired scholarship.

Section 6: Commitment and Tracking

We are currently collecting and reviewing data on SWI's effectiveness. We would like to collect additional data that compares SWI to a traditional course as a control group.

* 26. Are you willing to administer student evaluations (pre- and post-course surveys) and contribute data? (This may involve getting approval from the head of your school. Please note that this is not required. However, any instructors who contribute student evaluation data and participate in evaluating the data will be listed as co-authors on a group publication.)

- Yes
- No
- Maybe

* 27. Will you be able to compare SWI against a traditional course? If so, please describe a potential comparison course that might serve as a control group at your institution. Are the student populations comparable?

* 28. Longitudinal Tracking – Are there mechanisms in place for tracking students? For example, does your institution have an office of institutional research that can assist you in collecting data about your students?

- Yes
- No

Please explain.

* 29. Would you be willing to collect data on science outputs?

- Yes
- No

* 30. What role do you hope to fill in the larger SWI community? How do your goals for your class contribute to the SWI community (e.g., contributing to research or pedagogy, crowdsourcing medical breakthroughs, creating scientific protocols, mentoring others, etc.).

* 31. Are you interested in participating in any of the following? Check all that apply.

- Publishing
- Speaking (presenting SWI at conferences and events)
- Mentoring
- Committee Leadership
- Fundraising
- Grant Writing

Other (please specify)

* 32. The SWI community works in Committees to better fulfill our larger goals. If accepted as a Partner Instructor, please indicate which Committees you might be interested in joining. Please select all that apply:

- Science Committee
- Publishing Committee
- Symposium Committee
- Partner Instructor Training Committee
- Social Media/PR Committee
- Regional Committees

* 33. Please include any additional questions or concerns.

Section:7 Terms of Use and Disclaimer

For safety, liability, and quality control purposes and to strengthen SWI's community, an applicant must be both approved for and complete official training in order to teach the Small World Initiative (SWI) and become a Partner Instructor. Only with express written consent from SWI's President or Program Director may the official training requirement be waived, in which case an applicant would be matched with a "buddy" mentor instructor.

Applicants who are approved for training but do not complete such training are not permitted to teach SWI and are not Partner Instructors. Any unauthorized teaching of SWI or use of SWI Instructor Materials, Student Materials, or the Small World Initiative trademark is strictly prohibited. Anyone who uses SWI's materials, teaches SWI, or trains others in violation of SWI's policies and procedures is fully and personally responsible and liable for such unauthorized use and any consequences that may result.

Partner Instructors may supervise and train colleagues employed at the same institution to teach SWI, provided SWI receives advance notice and such notice includes the colleague's name and contact information. Such Partner Instructor is responsible for supervising colleagues and leading SWI at such institution. Partner Instructors may not train anyone who is not employed at the same institution to teach SWI without express written authorization from SWI's President or Program Director. Notwithstanding the foregoing, this permission to supervise and train colleagues may be revoked by SWI at any time at SWI's sole discretion.

Partner Instructors must treat as confidential and may not share Instructional Materials or SWI passwords with any party, including other Partner Instructors, without prior written consent from SWI's President or Program Director.

Section 8: Agreement and Signature

34. I understand that I may not teach the Small World Initiative before becoming a SWI Partner Instructor. This requires completing the official approved training or receiving express written consent from SWI's President or Training Director that such training requirement is waived. I assert that I have the support of my institution (e.g., department chair/head) if accepted to the program.

I assert that all of the information that I have provided is correct and accurate to the best of my knowledge.

If I am accepted into the program, I agree to:

Agree

Read all communications and strive for excellence in terms of safety and quality when teaching SWI

Meet with the relevant biosafety officer at my institution if such person exists to discuss how to implement SWI in the optimal way

Inform SWI of the names and email addresses of any other instructors assisting with implementation at my institution as well as take responsibility for overseeing SWI at my institution

Collect and provide SWI with class reporting data (e.g., when course is taught, number of students, type of course)

Provide SWI timely notification if I take a job at a new institution and keep SWI informed of my new contact information

Agree

Not share SWI materials or passwords with anyone (Exception: You may share the password for the student portal with your students.)(If you have colleagues at your own institution who need the instructor portal password, please notify us of their names and email addresses, and we will send them the information. This is to ensure that we are able to contact them with important updates and biosafety notices.)

Not train instructors at different institutions to teach SWI without receiving prior written authorization

Join SWI's crowdsourcing effort and provide requested samples

Participate in the SWI community

Have my email address shared with other SWI Partner Instructors

* 35. Electronic Signature (type your full name)

* 36. Date

Date

MM/DD/YYYY

* 37. Location

Note: The Small World Initiative is a registered 501(c)(3) public charity and has been organized exclusively for charitable, scientific, and educational purposes. EIN: 81-1772308.

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