



ABRCMS #StayResearching Resources

Connecting with virtual research opportunities

Crowd-sourced science can be used to help students engage in the scientific learning process virtually. Most virtual research projects require students to analyze results using specific criteria laid out by the primary investigator and submit their results to an online portal. These resources outline some formal and informal crowd-sourced research opportunities, particularly for bioinformatics students.

Resource Type	Resource Title	Description	Link
Virtual Projects	Rosalind	Platform for learning bioinformatics and programming through problem solving.	http://rosalind.info/problems/locations/
Virtual Projects	National Summer Undergraduate Research Project (NSURP)	A community-driven initiative to create rewarding remote summer research opportunities for BIPOC undergraduate students in the microbial sciences. Matches to be made by June.	https://nsurp.org/
Publications	Journal of Microbiology & Biology Education, Scientific Citizenship Special Issue	JMBE's first standalone themed issue introduces the topic of scientific citizenship, which addresses the following seemingly simple question: How can we engage people in science?	https://www.asmscience.org/content/journal/jmbe/17/1
Tools	NCI Proteomics Data Commons (PDC)	The PDC is a next-generation proteomics data repository within NCI's Cancer Research Data Commons with corresponding genomics and imaging data sets to enable data access, analysis, and sharing for integrative research.	https://pdc.cancer.gov/pdc/
Virtual Projects	Zooniverse	Research projects to which trainees can contribute with data collection or analysis.	https://www.zooniverse.org/projects
Virtual Projects	iNaturalist	Explore and share your observations from the natural world.	https://www.inaturalist.org/
Virtual Projects	SciStarter	A citizen science platform where: (a) anyone can participate, (b) participants use the same protocol so data can be combined and be high quality, (c) data can help scientists come to real conclusions, and (d) a wide community of scientists and volunteers work together and share data to which the public, as well as scientists, have access.	https://scistarter.org/
Virtual Projects	DataNuggets	Data Nuggets are free activities, co-designed by scientists and teachers. When using Data Nuggets students are provided with the details of authentic science research projects, and then get to work through an activity that gives them practice looking for patterns and developing explanations about natural phenomena using the scientific data from the study.	http://datanuggets.org/about-nuggets-2/
Virtual Projects	Folding@Home	Distributed computing project which studies protein folding, misfolding, aggregation, and related diseases.	https://foldingathome.org/
Virtual Projects	FoldIt	Crowdsourcing computer game enabling you to contribute to important scientific research.	https://fold.it/portal/
Website	Biomedical Citizen Science Hub	Empowering citizens to contribute to and become partners in biomedical data science.	https://citscibio.org/
Website	OpenWetWare	OpenWetWare is an effort to promote the sharing of information, know-how, and wisdom among researchers and groups who are working in biology & biological engineering.	https://openwetware.org/wiki/Main_Page
Course	BioWork Certificate Program	Videos and eLearning for biotechnology; basics of using lab tools, including chromatography, microscopy, hemocytometer, etc	https://www.ncbionetwork.org/students
Virtual Projects	DREAM Challenges	DREAM Challenges pose fundamental questions about systems biology and translational medicine.	http://dreamchallenges.org/
Virtual Projects	Stargeo	Aims to annotate disease samples (such as control and a certain disease) from GEO, enable powerful meta-analysis of a certain disease.	http://stargeo.org/
Virtual Projects	BD2K-LINCS-DCIC Crowdsourcing Portal	Includes crowdsourcing projects (lots of microtasks and megatasks) related with drugs, genes and diseases in Library of Integrated Cellular Signatures (LINCS) and GEO.	http://maayanlab.net/crowdsourcing/index.php
Virtual Projects	Debian Med	Aims to develop an operating system that is particularly well fit for the requirements for medical practice and biomedical research. The goal of Debian Med is a complete free and open system for all tasks in medical care and research.	https://www.debian.org/devel/debian-med/
Virtual Projects	Open Bioinformatics Foundation (OBF)	The Open Bioinformatics Foundation (OBF) is a non-profit, volunteer-run group dedicated to promoting the practice and philosophy of Open Source software development and Open Science within the biological research community.	https://www.open-bio.org/wiki/Main_Page
Curated List	Online resources for Simulations and online labs	Community curated list	https://docs.google.com/spreadsheets/d/18lV5leOqKij58xcR8dYJS5rYzZ4X1UGLWh3brRzCMedit#gid=0
Virtual Projects	COVID-19 Open Research Dataset Challenge (CORD-19)	This allows the worldwide AI research community the opportunity to apply text and data mining approaches to find answers to questions within, and connect insights across, this content in support of the ongoing COVID-19 response efforts worldwide.	https://www.kaggle.com/allen-institute-for-ai/CORD-19-research-challenge
Virtual Projects	Citizen Science Center	Learn how you can make a difference by doing real science to help solve our planet's most pressing problems.	http://www.citizensciencecenter.com/
Virtual Projects	Tiny Earth	Tiny Earth is a network of instructors and students focused on studentsourcing antibiotic discovery from soil.	https://tinyearth.wisc.edu/



ABRCMS #StayResearching Resources

Use this sheet to add your resources to the growing list of #StayResearching materials. Please use the "Category" drop-down list to indicate the category of your resource. Materials posted here will be added to the main page within 1 week of receipt.

Your name	Email address	Resource	Category	Description	Link



ABRCMS #StayResearching Resources

Many thanks to the following individuals and groups who have contributed greatly to this compilation of resources.

Contributor	Organization	Twitter	Email
	American Society for Microbiology	@ASMicrobiology	
Dr. Rachel Horak	ASM Staff	@DrRachelHorak	rhorak@asmusa.org
Dr. Shilpa Gadwal	ASM Staff		sgadwal@asmusa.org
Dr. Chris Skipwith	ASM Staff	@CGSkipwith	cskipwith@asmusa.org
Prof. Ramesh Raghupathi	Drexel University College of Medicine	@raghupathirames	rr79@drexel.edu
Dr. Sharon Milgram	NIH Office of Intramural Training & Education (OITE)	@sharonmilgram	milgrams@mail.nih.gov
Prof. Juan Ramirez-Lugo	University of Puerto Rico, Rio-Piedras		juan.ramirez3@upr.edu
Elizabeth Weaver	Georgia State University		eweaver1@gsu.edu