

Solving science questions by playing games

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Benjamin Good, assistant professor and project lead at The Scripps Research Institute. Credit: Su lab at The Scripps Research Institute

Game players constitute an important demographic in the citizen science community and have contributed to valuable scientific findings such as

those uncovered by fold.it and eyewire players. Although the ecosystem for citizen science and serious games is rich and diverse, it is largely fragmented, with a few, well-publicized projects and numerous, lesser known endeavors.

Researchers at The Scripps Research Institute (TSRI) are creating a new [portal](#) designed to unite the fragmented landscape of virtual citizen science opportunities so that gamers and [citizen scientists](#) will have a single entry point to explore them all.

"Games with a purpose have contributed to important academic discoveries in a variety of domains including protein folding, neuronal mapping, and image processing " said Benjamin Good, assistant professor at TSRI. Good authored a review paper on the subject in 2011, and has been actively studying crowdsourcing, citizen science and gaming as a project lead in TSRI associate professor Andrew Su's computational biology research group.

Dubbed, "Science Game Lab," the new portal aims to become a central hub for citizen scientists, gamers, microvolunteers, students, researchers, educators, and developers to come together and advance science. Developers of citizen science platforms will be able to use Science Game Lab to easily incorporate game mechanics to their project to increase their project's appeal.

For example, citizen science projects or crowdsourced science resources, such as WikiPathways, will be able to reward contributor participation with badges, achievements, and the like after integrating with Science Game Lab.

"This feature can be incredibly valuable for [citizen science project](#) developers who do not have the resources to develop game mechanics and additional incentives for retaining their participants," Good

explained, "Participant retention is often difficult for small citizen science projects. We hope our portal will be able to help. Participants will have an easy place to access their favorite citizen science projects and learn about other projects that may be of interest to them."

Su explained how his research group got involved.

"We have always been interested in big data and data wrangling, and have previously built portals and services for uniting fragmented data sources. Our efforts on biogps.org, mygene.info, and myvariant.info enable researchers to easily access a wealth of gene expression, gene-centric, or genetic variant information. We've also had a strong interest in crowdsourcing and have spearheaded scientific contributions to Wikipedia and citizen science efforts to annotate biomedical text with our Gene Wiki initiative and Mark2Cure project respectively. Ben's supervision of our serious games endeavors like 'The Cure,' and our crowdsourcing efforts like Gene Wiki/Wikidata made him the ideal lead for this effort. This upcoming portal is a culmination of our interests in data wrangling and crowdsourced science."

Su is expected to present a poster about the portal at the Heart Big Data to Knowledge (HeartBD2K) update meeting at the University of California, Los Angeles in July. "We hope that our platform-agnostic portal will entice gamers and citizen scientists to continue contributing to science," he said.

Margaret Wallace CEO of Playmatics, and a speaker at the 2016 Games4Change festival (June 23-24, 2016, New York City) explained, "Although we were contracted to build the portal, we have also spent a lot of personal time working on this project, because we firmly believe in its goals. With Science Game Lab, we want to empower the gaming community to contribute to science and showcase the amazing things they can accomplish while playing games."

Good, who is strong proponent of open science and open data, also pushed to ensure that the project would be open source. "The open source community is a highly motivated, extremely skilled community. We hope members of this amazing group will join our efforts in building and improving this citizen science portal."

Science Game Lab is currently in beta phase, but users and citizen scientists are strongly encouraged to add their emails to the interest list to be notified when the portal officially opens. "Super participants," or expert contributors to citizen science projects can further assist the development of the portal by encouraging the developers of their favorite citizen [science projects](#) to participate/integrate with Science Game Lab. The interest list can be found at sciencegamelab.org, and the open source repository can be found at bitbucket.org/account/user/sulab/projects/SGL. Researchers interested in adding their [citizen science](#) project to the portal are encouraged to contact Science Game Lab at info@sciencegamelab.org.

More information: Relevant:

medicalxpress.com/news/2016-05...-genetic-easier.html
phys.org/news/2015-11-biogps-ol-users-custom.html
medicalxpress.com/news/2015-07...-ease-literature.html

Provided by Su lab at The Scripps Research Institute

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