

Title of proposed program: Citizen Science

Submitting Source: Strategic Planning Meetings

What is the major obstacle/challenge/opportunity that the Common Fund should address?

A recent phenomenon has demonstrated an extraordinary opportunity to engage the average citizen in science. A project known as “FoldIt” has engaged thousands of non-scientists in structural biology challenges through provision of “rules” and a game structure which rewards players when stable structures are identified (<http://fold.it/portal/>). Developed by University of Washington scientists, FoldIt enabled gamers to determine the structure of HIV Retroviral Protease in ten days, after the research community had struggled with it for a decade. The time spent on nonproductive gaming is astronomical. The challenge is to divert attention toward scientifically productive challenges.

What would the goals of the program be?

The goal of this program would be to support the development of games such as FoldIt which can engage the average citizen in scientifically meaningful challenges.

Why is a trans-NIH strategy needed to achieve these goals?

Crowd sourcing for scientific challenges is a new phenomenon. Although many types of challenges may be amenable to this approach, the scientific community is not familiar with game development technologies that would allow the community to participate. This program will require a concerted effort to bring game developers and scientists together to consider the possibilities and to create a field of Citizen Science.

What initiatives might form the strategic plan for this topic?

Three initiatives are envisioned: 1) Brainstorming Workshop with gamers and scientists to define the *types* of challenges that will be most amenable to a Citizen Science approach; 2) Citizen Science Challenge Development – a set of projects will be supported that will develop high impact games in which the public is engaged to solve significant scientific challenges; 3) Outreach – an Outreach Initiative will be required to spread the word about the opportunities for citizens to become involved in significant research questions.

If a Common Fund program on this topic achieved its objectives, what would be the impact?

This program would be transformative in two respects. First, significant scientific challenges would have an entirely new population from which to gain insights. Second, the population at large will become more familiar with research objectives and outcomes. This approach has the potential to bring the NIH mission to the average citizen and thereby raise awareness of and appreciation for research. This will be the face of the NIH to the average US citizen.