
Public/scientist partnerships in the production of biomedical knowledge: the gamers

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Abstract

Session: Public/scientist partnerships in the production of biomedical knowledge: the gamers, the advocates and the enablers

Foldit, an online game developed by researchers at the University of Washington made headlines in 2011 when its gamers were able to solve for the crystal structure of the Mason-Pfizer monkey virus retroviral protease. Their efforts highlighted the new ways that "citizen scientists" are helping researchers produce knowledge. These efforts share three features. They utilize crowd-sourcing, soliciting help from a large (on-line) international community rather than from researchers or employees at a particular institution. They incentivize participation through gamification, transforming the key work activities involved in research into public games. Finally, the gamers are primarily not scientific researchers, but members of the public. This approach to research sometimes involves breaking down complex tasks into simpler ones that can be mastered fairly easily or more complicated games (EteRNA players design RNA's that result in real world experiments) where success seems to hinge on the emergence of a small cadre of expert gamers or teams of gamers for breakthroughs.

These new approaches to carrying out science raise several significant ethical, legal and social issues. As the researchers explore ways of improving both recruitment and productivity from players, are the players research subjects (and hence subject to regulatory oversight)? If not, are they researchers (and hence owed credit in authorship and potentially a stake in intellectual property)? In general, there are unresolved tensions between the different roles of these participants (gamer, researcher, subject)-with each role carrying different and sometimes conflicting norms.

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