Synthetic Biology Audience Research

Your museum partners know the audience in their museum. Science communication researchers are working to learn more about attitudes, perceptions, and opinions related to synthetic biology. Opportunities like the Building with Biology project will help provide information about the sorts of ideas and questions that people outside the field of synthetic biology hold. This, in turn, will help to develop best practices for communication and public engagement about synthetic biology. Below is an outline of the findings of preliminary studies on views of synthetic biology.

Understanding is Not Agreement

For many topics at the interface of science and society, there is little relationship between one's level of understanding of the science behind an issue and one's views of the issue. People who hold ideological predispositions that lead them to disagree with the notion of human-caused climate change actually strengthen their opposition as their knowledge of climate science increases.[1]

No matter how much the timing and content is targeted to address various audiences, there will be members of the public who do not agree with the message. It is important to remember that even if audiences disagree with the science, it doesn't mean they don't understand it. They might have ethical or personal reasons for disapproving of synthetic biology, and these opinions should be respected.

[1] Kahan, Dan M. et al., "The Tragedy of the Risk-Perception Commons: Culture Conflict, Rationality Conflict, and Climate Change." Temple University Legal Studies Research Paper No. 2011-26; Cultural Cognition Project Working Paper No. 89; Yale Law & Economics Research Paper No. 435; Yale Law School, Public Law Working Paper No. 230 (2011).

Familiarity with Synthetic Biology

Public audiences are generally not familiar with synthetic biology, but make inferences about what it is based on their understanding of "synthetic" and "biology." These initial associations are often negative.[2]
Many people associate synthetic biology with phrases such as cloning, stem cell research, GMOs, and fake/artificial/human-made.[3]

Risk and Identity

Synthetic biology seems to many scholars of risk communication like a topic that may cause a conflict between one's understanding of the science and one's identity or cultural values.[4] Issues that conflict with core identities, rather than just interests (i.e., who you are, rather than what you want) tend to be much more intractable.[5] Audiences that might have traditionally embraced science and technology (e.g. nanotechnology) in the past might have significant concerns about the moral and ethical implications of synthetic biology.[6]

Other research that segments audiences by demographic and religious identity suggests a slightly different set of predispositions.[7] Again, concerns tend to arise around questions of identity, particularly the role of humans in relation to the environment.[8] Museum staff will be able to provide insights about the audiences you can expect, including any observations from prior interactions on this or related topics.

For more information on synthetic biology audience research, see the Wilson Center's focus group research and their Guide for Communicating Synthetic Biology.

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[2] Mazerik, Jessica and David Rejeski. A Guide to Communicating Synthetic Biology. Wilson Center Policy Brief (September 2014).
[3] Hart Research Associates. "Perceptions of Synthetic Biology and Neural Engineering Key Findings From Qualitative Research." Woodrow Wilson International Center For Scholars Synthetic Biology Project (April 2014).
[4] Kahan, Dan M., Donald Braman, and Gregory N. Mandel. Risk and Culture: Is Synthetic Biology Different? Harvard Law School Program on Risk Regulation Research Paper No. 09-2; Yale Law School, Public Law Working Paper No. 190 (2009).
[5] Torgersen, Helge. "Synthetic Biology in Society: Learning from Past Experience?" Systems and Synthetic Biology 3.1-4 (2009): 9–17. PMC. Web. 29 May 2015.
[6] Hart Research Associates. (2014).
[7] Kahan, Dan M. et al. (2011).
[8] Kahan, Dan M. et al. (2009).