The purpose of this research paper is to investigate the relational links between scientific expert opinion concerning public engagement and the development and utilization of emerging technology, namely: synthetic biology applications. This research has implications on how public engagement practices can be incorporated by experts, and by default, how public policies that regulate their use can be formed. Theories of public engagement and public opinion can be used to understand the public's role in policy creation and implementation strategies of emerging technology. This paper explores the attitudes and opinions of experts on how and if the development and utilization of synthetic biology applications should be influenced by the public attitudes that are formed towards these technologies. This research also hypothesizes if those attitudes will vary among the different types of experts by affiliation or if those attitudes vary on different applications of synthetic biology.

The method used was a policy Delphi that consisted of four rounds of data collection: a semi-structured interview, a quantitative survey, a face-to-face workshop, and a final shorter survey. The Delphi method provides an iterative process that calibrates and reveals opinions through multiple rounds of data collection. The data used in this paper is primarily from the first round of interviews supported by quantitative data from the second round of the longitudinal Delphi process, the first survey. The research focuses on thematic patterns found in specific sections of the initially coded interviews that relate in some way to public engagement, and analyzed for each synthetic biology application case study and expert grouping.

This research may not only provide a new model of public engagement protocol but may also provide an evaluative framework of current public engagement models. Implications from this research could assist policy makers in creating appropriate regulations that adequately reflect the needs and concerns of the public. Public opinion is formed from the public's willingness to accept prior beliefs about the technology, and information barriers, which all play a crucial role in the decision making process; and therefore, the public engagement model for policy makers. These conclusions may also assist in creating a platform for further research of the effects of public opinion on policy development.