

Escape rooms are an engaging and increasingly popular game format in which a team of players is “locked” in a room and challenged to solve a series of narrative-embedded puzzles encoded in the room’s artifacts in order to “escape” within a set period of time. The University of California Museum of Paleontology, with partners University of Kansas Natural History Museum and the California Academy of Sciences, aim to develop, evaluate, and disseminate a “serious game” (i.e., a game designed for a purpose other than entertainment) based on the escape room model. Our traveling/loanable pop-up escape room and associated extension activities will engage diverse families (ages 8 and up) in museums and libraries in solving a biomedical mystery that teaches fundamental concepts in biology, engages critical-thinking and collaboration skills, and stimulates interest in biomedical careers. *STEM Escape* will address NGSS-aligned content central to medical research – in particular, it will communicate basic concepts regarding evolutionary relationships, a topic with relevance to a wide variety of medical applications, such as determining the source of emerging infectious diseases, tracking the progression of disease within a host, and identifying new medicines.

The project is designed to lay the groundwork for extended family interactions surrounding scientific content and biomedical careers. The immersive game will be supplemented by a set of solo and docent-led follow-up activities that reinforce key concepts and emphasize connections between players’ experience in the game and biomedical research careers. Learners will also receive takeaway media (e.g., activity book) that highlights a diverse set of NIH-funded researchers whose work directly relies on evolutionary patterns/processes. Caregivers will have the option of receiving a follow-up email with free at-home activities. The themed inflatable pop-up room will be wheelchair-accessible and all materials will be bilingual in English and Spanish.

The *STEM Escape* experience will be developed with and for the diverse audiences visiting urban/suburban natural history museums and libraries, as well as with and for rural families, whom we will reach through rural libraries. The project will also produce and evaluate a suite of support materials to facilitate institutional adoption and deployment of the experience. Nine host sites across the country have committed to hosting the room (with an additional two sites in the planning stages), and after the life of the grant, the room will continue to make an impact as a rentable traveling exhibit. Long term, this project will improve the public’s understanding of medically relevant evolutionary content, increase interest in biomedical careers, particularly among underserved groups targeted, and improve our understanding of how immersive games can be used to serve educational objectives.