HI-SEAS (Hawaii Space Exploration Analog and Simulation, hi-seas.org) as an opportunity for long-duration instrument/protocol testing and verification. K. A. Binsted[1] and J. B. Hunter[2], [1]University of Hawaii at Manoa, binsted@hawaii.edu, [2]Cornell University, jbh5@cornell.edu.

Introduction: HI-SEAS (Hawaii Space Exploration Analog and Simulation, hi-seas.org) is a habitat at an isolated Mars-like site on the Mauna Loa side of the saddle area on the Big Island of Hawaii at approximately 8200 feet above sea level. HI-SEAS is unique, in addition to its setting in a distinctive analog environment, as:

- we select the crew to meet our research needs (in serendipitous analogs, such as Antarctic stations, crew selection criteria are not controlled by researchers);

- the conditions (habitat, mission, communications, etc.) are explicitly designed to be similar to those of a planetary exploration mission;

- the site is accessible year round, allowing longer-duration isolated and confined environment studies than at other locations;

- the geologically Mars-like (in some aspects) environment offers the potential for analog tasks, such as geological field work by human explorers and/or robots.

The ability to select crew members to meet research needs and isolate them in a managed simulation performing under specific mission profiles makes HI-SEAS ideal for detailed studies in space-flight crew dynamics, behaviors, roles and performance, especially for long-duration missions.

Future missions: HI-SEAS is funded by the NASA Human Research Program for three more missions, of four, eight, and twelve months in length. The funded research on these missions will focus on crew cohesion, roles and function.

Opportunistic Research: Astronauts on real space missions typically work on a wide range of research projects, in addition to being subjects in psychological or biomedical studies. So, in order to raise the fidelity of the HI-SEAS mission workload, we will assign our crews a set of research projects to carry out during their missions. We refer to these projects as "opportunistic research", since they are not the focus of the funded research, and yet will hopefully produce useful results. Each of the three crews will have the same set of opportunistic research projects, and the crew's effectiveness at carrying out this research will be one measure of the crew's success.

Call for Opportunistic Research Proposals: Opportunistic projects can be proposed by researchers in academia or industry, or at one of the space agencies. They will be selected according to their feasibility and expected value, and must not confound the primary study.

The planned HI-SEAS missions are an excellent opportunity to raise TRL/CRL levels on technologies and countermeasures in a long-duration human exploration analog environment. We welcome proposals for tests that require a long-duration analog environment, and that complement the funded research.

The timeline is quite tight, as the primary research requires that the conditions for the three crews be as consistent as possible. The first crew will start in January 2014. So, we have set an internal deadline for opportunistic research for the end of August 2013.