Overview of the Life Sciences Glovebox (LSG) Facility; Mr. Lee Jordan and Ms. Anne Garber

The Life Sciences Glovebox (LSG) is a rack-level payload facility designed to house biological investigations in a "workbench" type environment aboard the International Space Station (ISS). The facility is scheduled to be launched in September 2018 and will be installed in the Japanese Experiment Module (JEM) of the ISS. LSG is comprised of an extendable work volume, an airlock, an avionics package, a laptop, and supporting structure. The 450L work volume provides two levels of containment for investigations via the physical barrier of its structure and an internal, filtered airflow that results in a negative pressure relative to ISS cabin pressure. The facility provides many other resources for investigation use including 28 VDC power, 120 VAC power, heat rejection, data connections, and video. Portions of the interior surfaces of the work volume are ferrous, allowing investigations and supporting hardware to be magnetically affixed to these surfaces. A UV decontamination system and a variety of ancillary hardware are available for investigations to use while occupying LSG. An engineering unit on the ground is used for payload development and integrated verification testing. Once the facility is installed and commissioned, it will be managed by the same team that manages the Microgravity Science Glovebox (MSG), another rack-level payload facility that has been operating aboard the ISS since 2002. Experienced Investigation Payload Integration Managers (IPIMs), who also support MSG payloads, will be available to assist payload developers through the integration process. This presentation will provide an overview of the LSG facility and the planned investigation flow for the near future.