

Interactive Presentations (IP)  
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TEKTITE 2020: WOMEN OF THE OCEAN. LAUNCHING A 10-DAY SUBSEA HABITAT MISSION  
AT AQUARIUS REEF HABITAT ON THE 50TH ANNIVERSARY OF THE FIRST ALL-WOMEN  
SUBSEA HABITAT CREW AT TEKTITE II.

**Abstract**

We celebrate the 50th Anniversary of the first all-women subsea habitat crew: Tektite II (1970) Mission 6 with the launch of a future-focused women-led Tektite2020 mission at the Aquarius Reef Habitat off Key Largo Florida. Our mission comprises two continuous phases. First, we recreate aspects of the original 10-day Tektite II mission 6 which was led by Sylvia Earle at a depth of 15m in the U.S. Virgin Island's Great Lameshur Bay. In homage to the pioneering women's team of Renate True, Anne Hartline, Anna Szmant, Peggy Ann Lucus and Sylvia Earle "labelled aqua babes by the press", we too wear 1970's bright red wet-suits and bikinis and commit to a suite of comparable research studies in decompression tables, saturation diving, human physiology and psychology in extreme environments, and the ecology of algae and coral reef fishes. We enact many of the infamous human factor activities including pranks, food studies, and reading a scripted surface-to-base radio theatre play between mission support and crew. We host linkups and special events with members of the original crew and operations personnel, to discuss the challenges, achievements and lessons-learned along the way. In phase two of the mission, starting on day 5, lead Aquanauts Pell and Thys look at where we are, and where we hope to be in the future. Tektite2020 pairs new technology demonstrations with deep cultural engagement and environmental custodianship. Contributing to new and ongoing research with today's state of the art technology from cooperative robotics to circadian lighting, ocean-aware wearables to bio-fabrication, studying microclimates and microbiomes, testing space analogue operating systems and reef generative systems, producing generative art (including a marine story quilt, and cinematic VR) and hosting public conversations, together we reimagine tomorrow's SeaSpace exploration. The goal of this program is to redefine our relationship with the ocean: establishing partnerships in holistic earth-sensing with leaders who promote diversity and responsibility in exploration from a transdisciplinary lens.