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SETI SEARCH RESUMES AT ALLEN TELESCOPE ARRAY, TARGETING NEW PLANETS

MOUNTAIN VIEW, CA – The Allen Telescope Array (ATA) is once again searching planetary systems for signals that would be evidence of extraterrestrial intelligence. Among its first targets are some of the exoplanet candidates recently discovered by NASA's Kepler space telescope.

"This is a superb opportunity for SETI observations," said Jill Tarter, the Director of the Center for SETI Research at the SETI Institute. "For the first time, we can point our telescopes at stars, and know that those stars actually host planetary systems – including at least one that begins to approximate an Earth analog in the habitable zone around its host star. That's the type of world that might be home to a civilization capable of building radio transmitters."

The ATA had been placed in hibernation mode last April as the result of the withdrawal of the SETI Institute's former partner, U.C. Berkeley, due to budgetary shortfalls. Berkeley was the operator of the Hat Creek Observatory in northern California where the ATA is located. With new funding recently acquired for observatory operations, the ATA can resume SETI observations where it left off: examining the thousands of new candidate planets found by Kepler. Highest priority will be given to the handful of worlds discovered so far that are located in their star's habitable zone: the range of orbital radii where temperatures are neither too hot nor too cold for liquid water to exist. Most astrobiologists consider that liquid water is the *sine qua non* for life.

"In SETI, as with all research, preconceived notions such as habitable zones could be barriers to discovery," adds Tarter. "So, with sufficient future funding from our donors, it's our intention to examine all of the planetary systems found by Kepler."

Observations over the next two years will allow a systematic exploration of these Kepler discoveries across the entire, naturally-quiet 1 to 10 GHz terrestrial microwave window. The ATA is unique in providing ready access to tens of millions of channels at any one time, anywhere in this 9 billion channel range (each channel is 1 Hz wide). Until recently many SETI searches focused on limited frequency ranges, including a small number of observations at the 8.67 GHz spin-flip transition of the $^3He^+$ ion, proposed by the team of Bob Rood (University of Virginia) and Tom Bania (Boston University). In memory of Rood, who died November 2, the initial ATA search of Kepler targets this week will focus around the 8.67 GHz band, before moving on to examine the billions of channels available for observation at the ATA.

The restart of SETI work at the ATA has been made possible thanks to the interest and generosity of the public who supported SETI research via the www.SETIStars.org web site. Additional funds necessary for observatory re-activation and operations are being provided by the United States Air Force as part of a formal assessment of the instrument's utility for Space Situational Awareness (see www.seti.org/afspc for more information).

"Kepler's success has created an amazing opportunity to focus SETI research. While discovery of new exoplanets via Kepler is backed with government monies, the search for evidence that some of these worlds might be home to intelligence falls to SETI alone. And our SETI exploration depends entirely on private donations, for which we are deeply grateful to our donors," notes Tarter.

"The year-in and year-out fundraising challenge we tackle in order to conduct SETI research is an absolute human and organizational struggle, yet it is well worth the hard work to help Jill's team address what is one of humanity's most profound research questions," says Tom Pierson, CEO of the SETI Institute.

The public can follow the new ATA observations via the SETIStars.org web site and can read more about the overall work of the SETI Institute at www.seti.org. The SETI Institute is proud to be a supporting partner in NASA's Kepler mission – see http://goo.gl/ykFTf.

Headquartered in Mountain View, California, the SETI Institute is a non-profit research organization that addresses the question of the origin, nature, and prevalence of life beyond Earth. www.seti.org SETI Institute, 189 Bernardo, Suite 100, Mountain View, CA 94043

FURTHER INFORMATION

The first Kepler Science Conference will be held at NASA Ames Research Center from December 5 to 9, 2011. The agenda for the meeting can be found at http://kepler.nasa.gov/Science/ForScientists/keplerconference/sessions/.
The abstract for Dr. Tarter's talk on Earth analogs can be downloaded from there

IMAGES OF THE ALLEN TELESCOPE ARRAY
http://www.seti.org/seti-institute/project/details/ata-image-gallery