

Interview with an EMSL user:

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My name is Geoff Marcy, and I am a professor of astronomy at the University of California at Berkeley.

My research in the last 20 years has been to discover planets orbiting other stars. We have been very successful in the last 15 years or so in finding Jupiter-sized planets and Saturn-sized planets --- even planets as small as Neptune, a few times the mass of the Earth.

But, in fact, we haven't found any Earths yet, at all, and it is not for lack of trying.

Our equipment is not quite capable of detecting Earths. We use the world's largest telescope, the Keck Telescope in Hawaii, and a humongous spectrometer that is attached to it. But, it is the calibration of that spectrometer that has been lacking.

We are lucky to be here at DOE's EMSL to use the Fourier transform spectrometer that they have, allowing us to calibrate our spectrometer that is located high atop the hopefully dormant volcano on Mauna Kea where the Keck Telescope is located.

With that new calibration, we expect to launch an entirely new search for planets -- one that we hope will reveal the first Earth-like planets ever found.

We are working closely with NASA and their new Kepler telescope that was just launched into space in March 2009, designed to identify those stars that may have Earths around them and then we will be using an iodine gas cell we are calibrating here at DOE's EMSL to find those Earths around other stars using the Keck Telescope in Hawaii.

So, I personally have to say I couldn't be more excited and couldn't feel more lucky to be a part of this giant project that may reveal planets that have been a dream for humans for over 2000 years.

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