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Statement of Research Subcommittee Chairman Larry Bucshon (R-Ind.) Hearing on "Exoplanet Discoveries: Have We Found Other Earths?"

Chairman Bucshon: Since humanity first began looking to the heavens, we have been fascinated by the possibility that we may not be alone in the universe. We dreamt of worlds far away, but not unlike our own, long before the first exoplanet was discovered by researchers funded by the National Science Foundation in 1992. The National Science Foundation's Division of Astronomical Sciences has continued to play a crucial role in furthering these discoveries, providing funds to help build and operate ground-based telescopes used for exoplanet discovery and observation.

As the number of confirmed and cataloged heavenly bodies has swelled in the past twenty one years, we have sought to learn more about the conditions on these planets: the temperatures, the atmospheres, their core composition, how they orbit their respective stars, and ultimately, whether any are capable of sustaining life. We will hear from our witnesses today about "habitable zones," the distance from a star that creates conditions hospitable to life. We believe that 50 out of the 2700 exoplanet candidates identified by NASA's Kepler mission exist in the "goldilocks" zone, neither too hot nor too cold, and potentially just the right temperature to allow life to flourish. Just last month, the Kepler mission released the details of three "super-Earth" sized planets in the habitable zone. I look forward to hearing from our witnesses regarding their suggestions for the next steps in studying these super-Earth sized planets in particular, as well as surveying for additional exoplanets.

I would like to highlight the important contributions to life sciences research in space of two individuals affiliated with Purdue University back in my home state of Indiana. Dr. France Cordova, President Emerita of Purdue University is the Chairman of the Board of the Center for the Advancement of Science in Space, which manages the National Laboratory aboard the International Space Station. Dr. Marshall Porterfield, currently on leave from Purdue, is the Director of NASA's Space Life and Physical Sciences Research and Applications Division. At Purdue, he is a professor of agriculture and biological engineering, as well as co-director of the Physiological Sensing Facility, which fosters interdisciplinary engagement between bioscientists and engineers to drive sensor development and application. We are all very grateful for their service to our nation, and I am very pleased to know that their work will benefit not only the astronauts and scientists of today, but the students of Purdue University who will be studying these complex problems in the years to come.

