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## Results from the Kepler-Keck Giant Planet Search (invited talk)

*Thursday 26 March 2026 09:45 (25 minutes)*

Humanity's search for Earth analogs is enriched by the fact that Earth-like planets do not form in isolation. The interplay between Earth-like planets and their siblings is an emerging new research topic. A prevalent pattern that represents one of the most common modes of planet formation is that planets in the same system tend to have similar sizes and regular orbital spacing, like "peas-in-a-pod." However, the peas-in-a-pod pattern is not a complete description of planetary systems. In our own solar system, Jupiter, which is believed to have been instrumental to the formation of Earth and the delivery of its water, represents a clear departure from peas-in-a-pod. In this talk, I show how a decade-long survey dedicated to discovering Jupiter analogs among exoplanet systems has revealed a new pattern: Jupiter-like outer planets are most prevalent around the systems of inner transiting planets that tend to have gaps, rather than regular spacing. This result suggests that Jupiter-like planets disrupt the regular spacing of small planets. The exact mechanism of disruption—whether planets that would have been in the gaps are simply inclined or suffered collisions or ejections—is an ongoing topic of study.

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**Session Classification:** Cold Jupiters AND inner low-mass planets (individual systems and statistical analyses) - inside-out