

The discovery of thousands of planets by the indirect techniques of radial velocity and transit measurement has fueled the quest to discover life outside our solar system. To detect signs of life requires spectral analysis of light either generated by the planets or reflected by their atmospheres. This presents impressive challenges; in visible light, earth-like planets are 10 billion times fainter than their host stars and just a few tens of milli-arcseconds away from them. To suppress the glare caused by scatter and diffraction to levels sufficient to unveil the planet, either an internal coronagraph or an external starshade are used. Through amazing advances in both approaches in the last few years, the ability to directly image exoplanets similar to Earth is nearly in hand. This presentation will focus on the techniques, advances in technology, and planned and future missions to achieve this holy grail of science.