

**Program:** Planet number 9

**Speaker:** Greg McCauley, Executive Director, CEO, and principle lecturer for the Link Observatory

**Attendance:** 121

**Guests:** Linda Nitka, John Cole, Jerry Spears, James McCallum

**Sponsor:** Marty Meisenheimer

**Scribe:** Bill Dick

**Editor:** Bill Elliott

Greg McCauley is the CEO of Link Observatory Space Science Institute. Mr. McCauley emphasized that Link and Scientech have similar goals – promotion of STEM education and careers. Greg announced that Dr. David Wolf, Indianapolis astronaut, will be the Chief Science Officer of Link, as of 1 Jan 2018.

Somewhere out in the deep outer solar system is a gravitational force affecting planets. Planet #9 is known by indirect evidence of gravitational influence. It is thought to be 10X the size of earth and has an elliptical orbit around the sun taking 15,000 years to complete one orbit.

A planet X was known in 1930. It turned out to be Pluto. Researcher Clyde Tombaugh of Flagstaff, AZ used a Zeiss Blink comparator to study photographic plates of the night sky. He took long exposures of a section of the sky and repeated the photos many, many times. He would flip back and forth through the aligned star fields from different dates looking for movement. In February 1930, Pluto was seen.

The same method is used today but a computer does all the difficult work. Thousands of photographic images are taken by automated computerized telescopes and analyzed by a computer. Mr. McCauley showed a diagram of the solar system as known 50 years ago compared to today – a vast difference.

In 1992, another Kuiper Belt object was seen. There are now 2,422 known trans Neptunian planetoids. These bodies have always been there. On 20 Jan 2016, Michael Brown and Konstantin Batygin of Caltech deduced a large planet, ten times the size of earth, about 45 billion miles away. There are eight objects in the solar system which have salt water oceans, the earth is one, and the seven others are moons.

The Subaru telescope on Mauna Kea is being used for a photographic sky survey of the constellation Orion in order to detect Planet #9 which is felt to be in that area. Planet #9 is calculated to move 1/5,000 of a degree in the sky each year. It will take years and thousands of photos to document Planet #9. The latest telescopes are 100 X the size of the Hubble telescope.

Mr. McCauley believes that we will discover amazing things regarding the solar system over the next 50 years. Link Observatory has joined the search for Planet #9. With the new larger telescopes, it is likely that 25,000 exoplanets will be discovered. Amazing research!



Greg McCauley