

May 24, 2013

On Friday, May 24, The Astronomy Club of Akron (ACA) was honored by the company of [Dr. Robert Owen](#), Assistant Professor of Physics at Oberlin College. Dr. Owen joined some members of ACA for dinner and pleasant conversation at Prime 93 located on Manchester Rd. Dr. Owen is a theoretical physicist who studies relativity theory as it relates to black hole collisions and neutron star collisions; he also enjoys science-fiction shows like Battlestar Galactica and the occasional role-playing game. Once dinner concluded, the monthly meeting at Kiwanis Hall came to order.

Dr. Owen initiated the meeting with his presentation, titled “Black holes, neutron stars, gravitational waves, and the dawn of multimessenger astronomy.” He explained how the search for black holes began for theoretical physicists and shared an interesting anecdote involving Stephen Hawkins. Back in the mid 70s, some physicists believed that Cygnus X-1, located close to Eta on the Cygnus constellation, was indeed a black hole. Dr. Kip, who was Dr. Owen’s advisor during his doctoral program at Cal-Tech, made a bet with Stephen Hawkins. Hawkins did not believe that Cygnus X-1 was a black hole and their bet was placed in 1976. After many years and a significant body of evidence accumulated, Dr. Hawkins finally yielded in 1990, recognizing Cygnus X-1 as a black hole.

Dr. Owen also spoke about neutron stars and their immense density, gravitational waves—ripples in the fabric of space-time— as a result of neutron star collisions, and massive black holes located in the center of galaxies.

Furthermore, Dr. Owen spoke of the meaning of multi-messenger astronomy. In this sense, we should consider all events in the cosmos as having different types of signatures. The most familiar signature for us amateur astronomers is in the form of electromagnetic radiation, i.e. light; however, other forms of signatures provide additional information about the nature of the universe and the events that occur in it. We may not be able to see these signatures that present themselves in gravitational waves, neutrinos, x-rays, gamma rays, and so on, but by developing sensitive equipment that can detect them we can find those clues. One such tool is LIGO (Laser Interferometer Gravitational-wave Observatory), a cooperation of different observatories and a community of dedicated scientists (www.ligo.org).

Finally, Dr. Owen shared some links that might be of interest to our members:

blackholes.org; einstein.phys.uwm.edu

After Dr. Owen’s presentation, the regular ACA meeting came to order. Jason Shinn distributed membership cards and Glenn Cameron collected membership dues.

A reminder was given for the Solar party on May 25th, where members would have H-Alpha telescopes and telescopes equipped with white-filters.

Ron took the floor and explained a proposal to purchase a new 16 inch telescope for the club. He came prepared with a financial plan that not only would allow the club to purchase the telescope, but also

leave the club's financial resources with enough cushion. The total cost for a 16" LX200 telescope, a dew heater, shipping, and cutting the pier to accommodate the equipment will have a total cost of \$13,234.

After including the total assets in our treasure of \$12,610; impromptu stargazer pledges in the amount of \$248; the sale of our current 14" LX200 telescope for \$2,500 (ACA observatory directory to provide loan matching the amount until the sale of the telescope is secured and finalized); and membership fees and donations estimated at \$1,000 (by August 25, 2013); the total assets in cash held by the ACA total \$16,358, leaving a cushion of \$3,124. Ron emphasized that at no time the assets of the treasury will be lower than this cushion. Ron also talked about the possibility of doing a wine fest to raise money. Purchase of the telescope would have to take place during the summer because its shipment takes two to three months; therefore, the plan is to obtain the telescope with enough time to have it in our observatory during the fall.

The generosity and commitment of members of the ACA was also present during the meeting. Mark pledged a gift of \$1,000. Rick Burke also made a donation, as well as a couple other members. With these pledges from our members, the club should have no problems with the purchase of its new telescope.

Glenn Cameron, treasurer, gave a brief financial summary of last year, where the club's income totaled \$3,800, and the expenses equaled \$1,000. This summary further proved that the ACA is able to afford a new telescope. Glenn will check with the insurance company to determine whether or not the current plan would cover the new telescope.

Mark called for a vote on the telescope: 19 yeas vs. 0 nays. The motion passed unanimously.

Other announcements:

- Grill is leaking gas and will not be used for the solar party.
- Second solar party will be on July 6.

Minutes prepared by Juan Eduardo Contreras