

The following are suitable for astronomy club meetings or starparty/conventions: (~35 to 50 minutes in length)

"Galaxy Clusters: Abell's, Hickson's, and Palomar's"

"I love observing galaxies! Especially the large, bright showcase Messier and the NGC galaxies that show plenty of spiral arm details or interactions with other nearby galaxies. But Galaxy Clusters,,,,, What are they? And how do the bright galaxies that we like to observe fit in with these clusters. It's been an interesting observational journey into the 'universe' of galaxy clusters, macro to micro. Most galaxy clusters are faint and / or sparse, and not very appealing visually, but each catalog has a number clusters that are worth looking for. So today, we'll discuss what I've learned during that journey among the galaxy clusters, along with some of the people behind these catalogs, and how to go about observing these objects.

"Edwin Hubble: The Surveyor of the Universe" *One hundred years ago, on the night of October 5th, 1923, a discovery was made that changed our understanding of the cosmos. American astronomer Edwin Hubble, using the new 100" Hooker reflector telescope at Mt Wilson Observatory, identified within the Andromeda Nebula what was to become the first extra-galactic variable star. Through his work of studying variable stars in galaxies, Hubble broke new ground in our understanding the universe, and along the way sparked the basics of the Big Band Theory. Today, we're going to look-back on his life and accomplishments, and talk about his discoveries. We'll also review a number of my amateur observations of Hubble's objects and how you can observe them too.*

"The Local Group of Galaxies (What are they, and How to Observe Them)".

Today, we'll discuss what I've learned during my observing 'journey' among the Local Group. We'll review what galaxies are in general and what is the Local Group and its place in the universe, along with some of the people, both historical and modern, behind these objects, and how to go about observing them.

"Planetary Nebula: From Messier to Abell (What are they, and How to Observe Them)" *Planetary Nebula,,,,,, Colorful ephemeral ghosts, luminescent wispy shells of dying stars. Little crystal ball gems in the night sky, delighting amateur astronomers using small or large telescopes.,,, So today, I would like to bring these ethereal objects 'down to Earth' by discussing what they are, why we call them that, some of the people, both historical and modern, behind these objects, and how to go about observing them.*

"Halton Arp and his Peculiar Galaxies" *In 1966 American astrophysicist Halton Arp published a paper titled "Atlas of Peculiar Galaxies", which list 338 'interesting' photographs of galaxies that didn't fit into the normal Hubble classification scheme. Through his work of studying these types of unusual galaxies, Arp broke new ground in our understanding the universe, and along the way sparked a debate that challenged the basics of the Big Band Theory. Today, we're going to look-back on his life and accomplishments, talk a little bit about the redshift controversy, and his Atlas. We'll also review a number of my observations of his peculiar galaxies.*

"Obscure Open Star Clusters" *Open Star Clusters are great objects to view regardless of the type of telescope you use. Most amateurs have observed the Messier and brighter NGC clusters. Today we are going to review the more obscurely named open star cluster catalogs - Trumpler, Stock, King, Berkeley, Collinder, and others. We'll learn a little about the individuals behind each catalog, and look at sketches and video-capture image examples of various members of each catalog. Hopefully this presentation will inspired you to search-out and explore these often missed, but very rewarding celestial gems.*

"E.E. Barnard and His Dark Nebula" *Edward Emerson Barnard was a professor of astronomy at the University of Chicago Yerkes Observatory. He is considered by some to be the last great Victorian classical visual observer, living at the dawn of the age of the "New Astronomy" - astrophysics. But Barnard was also one of the first pioneers of wide-field photography, studying the structure of the Milky-Way. We're going to look-back on his life and accomplishments, including his 'Photographic Atlas of Selected Regions of the Milky-Way', and also review several of my observations of his dark nebula.*

"Galileo - The First Optical Astronomer" *Today we are going to look back at the life of Italian astronomer Galileo Galilei, the first astronomer to observe the heavens using a telescope of his own creation and publish what he had seen. A late date 'Renaissance Man' who helped propel the science of astronomy into the 'Age of Enlightenment'. We'll also cover his greatest contribution – his observation of the "Galilean" objects that amateurs can observe today.*

"The Ferret of Comets" *Today we are going to take a retrospective look back at the life of French astronomer Charles Messier, one of the best known astronomers and comet hunters from the 'Age of Enlightenment', which marked the birth of modern science. We'll also cover his greatest contribution – his list of deep-sky objects, to avoid while comet hunting, his 'Catalog of Nebulae and Star Clusters'.*

"The Father of Amateur Astronomy" *A review of the life of one of the greatest English amateur astronomers from the 'Victorian' era, the Reverend Thomas William Webb, who lived from 1806 to 1885, and came to be known as "The Father of Amateur Astronomy". We'll cover his greatest astronomical contribution, Webb's handbook - 'Celestial Objects for Common Telescopes', an observing guide for which he is best known today.*

"The Herschel's and Their Catalog" *A review of William and Caroline Herschel's life, and their survey of deep-sky objects. Larry has successfully observed the Herschel-400, along with several hundred additional Herschel objects. He will share what he has learned regarding the Herschel's, their accomplishments, and their classification system, along with Larry's personal observations of selected objects from all eight Herschel classes.*

"The Venus Transit: A Historical Retrospective" A review of past historical Venus Transits up through the present, and why they were so important). Larry successfully observed both the 2004 & 2012 Venus Transits and will share his personal experience along with what he's learned about the previous 5 transits observed before the modern era, and how the challenge from Edmund Halley launched a world-wide quest for the answer to the most important scientific question of the last 350 years - the value of the AU and the scale of the solar system!

"Comet Tales" *The Mythology and Science of Comets, and How to Observe Them.*

"StarGazing & Myths" *An introduction to the constellations and seasonal night sky mythology from around the world.*

"Solar Observing" *An introduction to solar features visible in both white-light and H-alpha, observing techniques, and equipment.*

"Solar Observing and the 2024 Total Solar Eclipse" *An introduction to solar features visible in both white-light and H-alpha, along with observing techniques, and equipment. Additionally, We'll discuss how to observe the October 14th Annular Solar eclipse and the April 8th, 2024 Total Solar Eclipse.*

~~**"Video Astronomy"** *An overview of the benefits, equipment needed, with video capture examples. (retired - out of date)*~~

The following are suitable for the beginner/general public: (~20 minutes in length)

"Observing the Moon for Beginners" *An introduction to our nearest neighbor.*

"Comet Tales" (short version) *The Mythology and Science of Comets, and How to Observe Them.*

"StarGazing" *An introduction to the constellations. (weather permitting, includes a green laser tour of the constellations currently visible).*

"Galaxies" *A short introduction to Galaxies.*

"Nebulae" *A short introduction to the different types of Nebula.*

"Starclusters" *A short introduction to Open and Globular Star clusters.*

"Star Hopping" *A 'how to' that focuses on how to Star Hop, and includes a demo.*

"Astro Sketching" *A 'how to' that focuses on deep-sky sketching, and includes a sketching demo.*

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