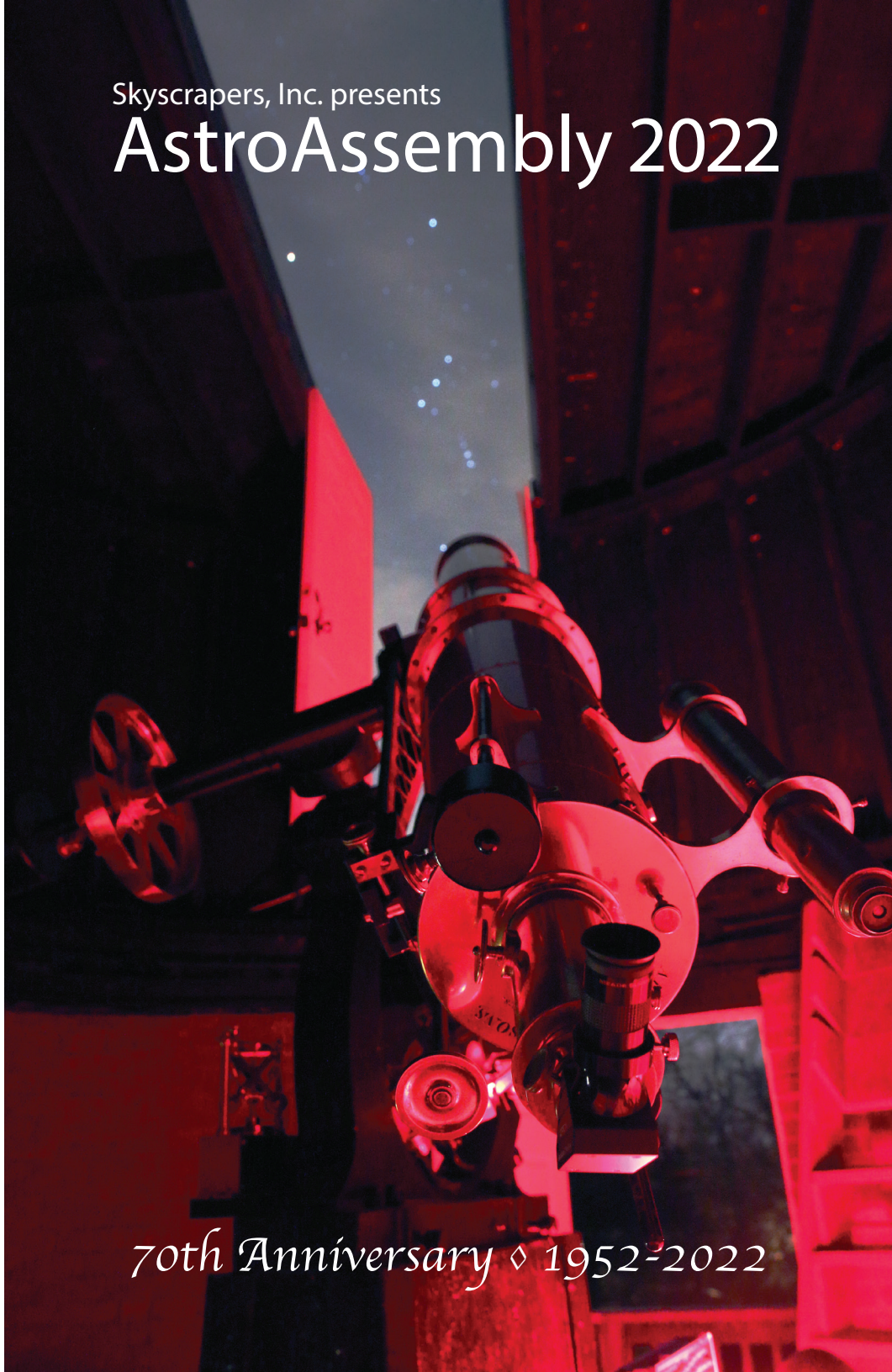
Skyscrapers, Inc. presents

AstroAssembly 2022



70th Anniversary ◊ 1952-2022

A Note of Thanks

This year's event, like many in the past, has been a true team effort. Without many hands doing what they do best, AstroAssembly would not be possible. A sincere thank you to all members, friends, speakers and donors who have helped to make this year's AstroAssembly a success.

Please examine the ads of our commercial donors that appear in the program. When you are looking for equipment, do not hesitate to contact them for further information about their products, and be sure to mention that you saw their ad in our AstroAssembly 2022 program!

Welcome To AstroAssembly 2022

For those of you present at Seagrave Memorial Observatory, we invite you to have an enjoyable day. Have a cup of coffee and a snack, and mingle with the amateur astronomers present from all over the area. Attend our afternoon and evening presentations, and take a look through one of our many telescopes. AstroAssembly is about getting together and having fun!

For those of you joining us remotely over Zoom, we wish you were here. You should also have a cup of coffee and a snack, and we will keep the Zoom channel open so that you, too, can mingle with others throughout the day. We are grateful that, while we can't be together in person, technology allows us to be together though miles apart.

On this seventieth anniversary of AstroAssembly, I would like to express my sincere gratitude to the many hands that made carrying on this tradition possible. We have endured many bumps-in-the-road through the past few years, but met the challenges and are hopefully better for it.

Finally, thank you, our visitors (in-person and remote), for supporting Skyscrapers by attending this event. The funds generated through AstroAssembly help to support the observatory and our outreach events throughout the year. But, most of all, we truly enjoy spending the day with old friends and new acquaintances, and look forward to this event throughout the year.

Thank you for attending, and have a wonderful day!

Linda Bergemann
President, Skyscrapers, Inc.

Friday, AstroAssembly Eve

at Seagrave Memorial Observatory

7:00pm **Gathering & Socializing**

7:30pm **Joe Rao** Hayden Planetarium

Mars and the Moon: December 7, 2022 (via Zoom)

During the overnight hours of December 7-8, the Moon will turn full, and Mars will come to opposition, both within less than 90 minutes of each other . . . an unusual circumstance that will result in the Moon either passing directly in front of Mars (called an occultation), or graze tantalizingly close to the red planet -- but not hide it. Joe Rao will outline the viewing zone across New England. This talk is based on a short article that will appear in the December issue of Sky & Telescope.

For 21 years, Joe Rao was the Chief Meteorologist and Science Editor at News 12 Westchester. He was nominated for eight Emmy Awards, and in 2015 was voted First among weathercasters in New York State by the Associated Press. Since 1986 he has served as an associate and guest lecturer at the Hayden Planetarium. In 2009, the prestigious Walter Scott Houston Award was bestowed upon him by the Northeast Region of the Astronomical League. He is a Contributing Editor for *Sky & Telescope* magazine, and writes a syndicated weekly column for the online news service Space.com. Joe also pens a monthly astronomy column for *Natural History* magazine, and provides annual astronomical data for *The Farmers' Almanac*.

8:30pm **Stephen LaFlamme** Skyscrapers, Inc.

Reporting a Backyard Astronomy Discovery

Have you ever peered through a telescope or looked at an astronomy image and asked, "What's THAT?" Sometimes it pays off to dig a little deeper and seek the answer. Back in June 1999, myself and two fellow amateur astronomers stumbled upon such an object. The finding was posted to an on-line amateur astronomer newsgroup, and soon the community was abuzz. Over the next two-plus decades, more information became available via NASA and ESA surveyor spacecraft: a prime example of why you should always keep an inquisitive eye when gazing at anything astronomical.

Stephen LaFlamme held up a pair of binoculars during the summer of '78 and "discovered" the crescent shape of Venus. This spectacle led to his lifelong passion for backyard astronomy. Reaching the point in high school where a career path had to be chosen, Stephen wanted to pursue astronomy. His Dad, who was paying for college, wanted him to be a pharmacist. So, while consuming his days counting pills for Walgreens, he spent his nights under the constellations with wonder. He designed and built a backyard

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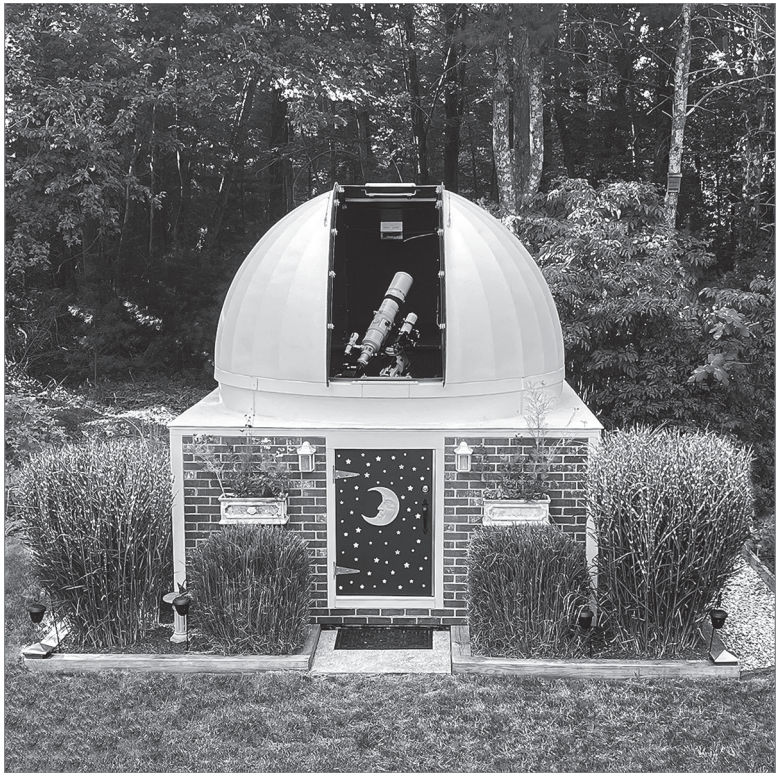


dome some 25 years ago. Astrophotography rose to the forefront as local light pollution grew worse each year. Artificial light glow can be subtracted by software. A sampling of this work can be found under Universefromthe-backyard on Facebook or Instagram. Stephen has many tales to share about owning meteorites and a piece of the Moon. His day spent with John Dobson. Being "visited" by his deceased astronomy mentor one night at his observatory. And an amusing anecdote about a failed astronomy club start-up. Having retired three years ago and with no alarm clock to set, Stephen now takes full advantage of every opportunity to study the stars.

9:30pm Observing

The telescopes at Seagrave Observatory will be open for observing after the evening program, weather permitting.

Saturday

at Seagrave Memorial Observatory
Presentations, Swap Tables, Door Prizes, Raffle, Solar Viewing, Astrophotography Contest, Homemade Telescopes, Famous Astro Bake-Off Contest

10:00am **Registration & Refreshments**

11:00am **Michael Corvese** Skyscrapers, Inc.
Evolution of the Moon

Continuing from his last presentation on the origins on the Moon, Michael Corvese will take us through a time line of cosmic and geologic events that give us the characteristics of the Moon that we see today.

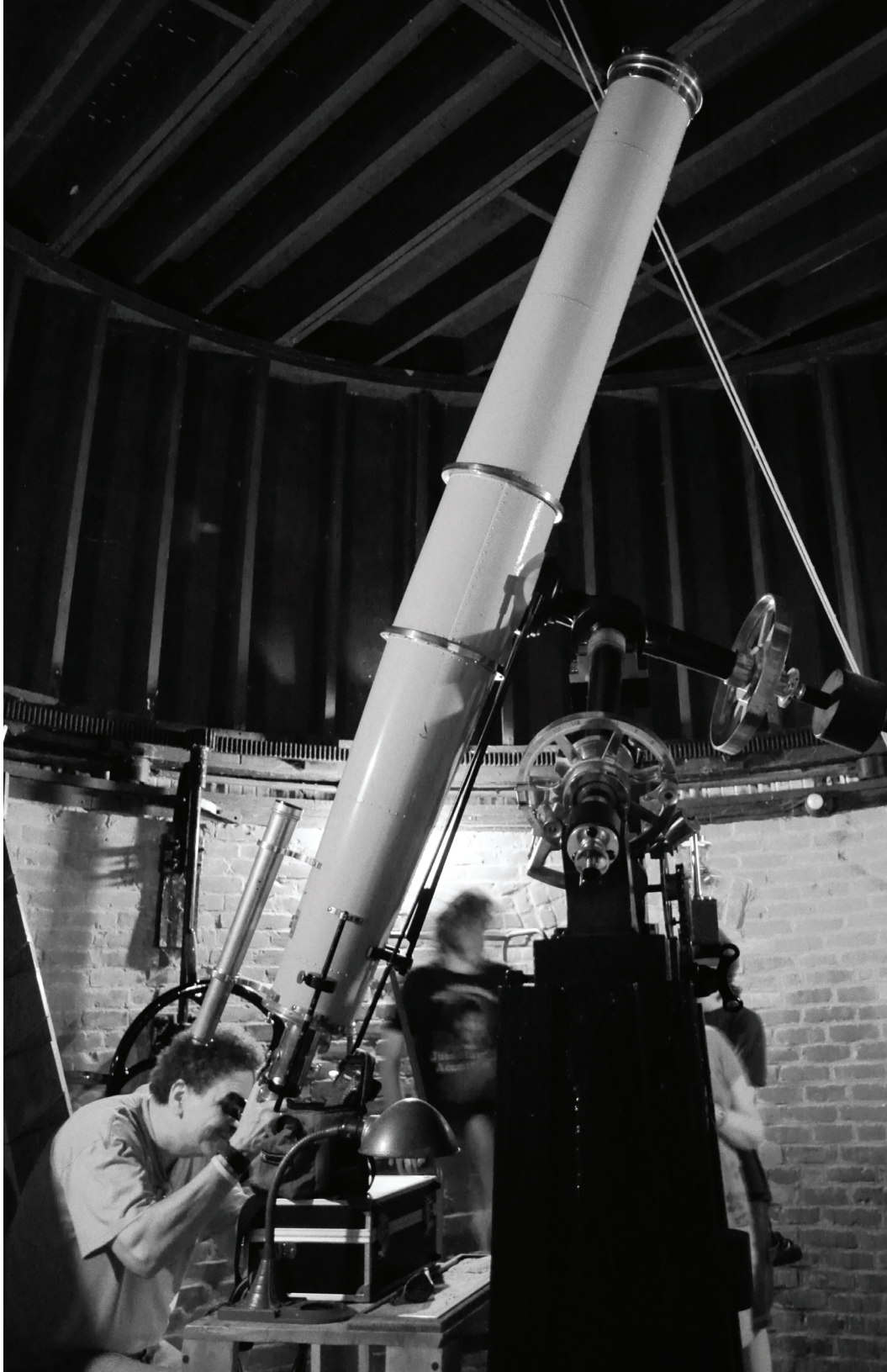
Though a recent new member, Michael Corvese has been an amateur astronomer for about 40 years, and is now able to pursue the hobby more vigorously since retirement. Starting with a planisphere, field guide, and binoculars, Michael thoroughly learned the night sky before moving on to a telescope. Recent formation of the Lunar Observing Program Group has led to a new interest in studying the Moon, its features, its origins, and its evolution.

12:00pm **Deli Lunch** Pre-order and payment with registration required

1:00pm **Sara J. Schechner** Harvard University
Bringing the Stars Home: Astronomical Advertising to Sell Goods

Celestial bodies have long evoked wonder, and many companies took advantage of the symbolism of astronomy and its instruments to market their products in the 19th and 20th centuries. D-Zerta drew on the anticipated return of Comet Halley in 1910 to launch its new pudding. Excitement over the opening of the world's largest telescope in 1949—the 200-inch telescope at Palomar Observatory--was used to sell Buicks and bread. This talk will focus on the diverse ways that images of astronomical instruments—especially sundials and portable telescopes—were used to sell consumer goods and lifestyle choices.

The advertisements for goods and services unrelated to astronomy fall into three categories: Victorian trade cards often had romantic, comic, or historic images to catch the eye of consumers who would take and share the cards that promoted food stuffs, farm tools, patent medicines, local haberdashers, and other businesses. The second group of advertisements (mostly found in magazines) associated a characteristic of the depicted scientific instrument with the product. For example, an astrolabe might be



Saturday Evening

at Seagrave Memorial Observatory

5:30pm **Dinner Break** Dine on your own at a local restaurant.

7:30pm **Welcome & Awards**

7:45pm **Rick Lynch** Skyscrapers, Inc.

The Royal Observatory (City Observatory) at Edinburgh, Scotland

The first Royal Observatory was founded on Carlton Hill in the city of Edinburgh in 1822, and remained there until 1896, when it was moved to the Blackford Hill site. The original observatory, associated buildings and monuments still exist on Carlton Hill today. Earlier this year I visited the site, and will discuss the early history of the observatory and its buildings.

Rick has been a member of Skyscrapers since 1969 when he gave his first presentation at a monthly meeting. Over the years his astronomical interests have primarily focused on meteor observing, comets, variable stars, and deep sky observing. For the last several years Rick has been very focused on measuring double stars, and observing the many star clusters listed in the lesser known catalogs: Trumpler, Berkley, King, Dolidze, Basel, Czernik, Ruprecht, etc. He observes from his two home observatories in Greenville, RI.

8:30pm **Observing** The telescopes at Seagrave Observatory will be open for observing after the evening program, weather permitting.

associated with the complexity and usefulness of a typewriter; a sundial with the time-tested endurance of a refrigerator, a shoe for every hour of the day, or cocktails for those happy hours; or a telescope for the search and discovery of sexy underwear or the best motor oil. The third group drew upon the spectacle and romance of stargazing to suggest that the product would delight the consumer with an out-of-this-world experience, be it through Life Saver candy or plush carpet. I will also exhibit a fourth category of advertisements that promoted the purchase of telescopes to amateur astronomers by placing attractive women next to them.

Sara J. Schechner, Ph.D., is the David P. Wheatland Curator of the Collection of Historical Scientific Instruments and a Lecturer on History of Science at Harvard University. Her research, teaching, and exhibitions have earned her many prestigious international awards, including recognition as a Legacy Fellow of the American Astronomical Society (AAS). She is currently the president of the Inter-Union Commission for History of Astronomy of the International Astronomical Union (IAU) and the International Union for the History and Philosophy of Science and Technology (IUHPST), as well as Vice President of IAU Commission C3 (History of Astronomy), She is also past chair of the AAS Historical Astronomy Division, a founding member of its Working Group for the Preservation of Astronomical Heritage, and on the editorial board of the *Journal for the History of Astronomy*.

Her books include *Comets, Popular Culture, and the Birth of Modern Cosmology* (1997), *Tangible Things: Making History through Objects* (2015, with Laurel Thatcher Ulrich, et al.), and *Time of Our Lives: Sundials of the Adler Planetarium* (2019). Current research focuses on sundials, science, and social change; the representation of astronomers and their instruments in works of art; and scientific instrument making in America.

Please see https://scholar.harvard.edu/saraschechner for career highlights and details on awards, publications, museum exhibitions, and other projects.

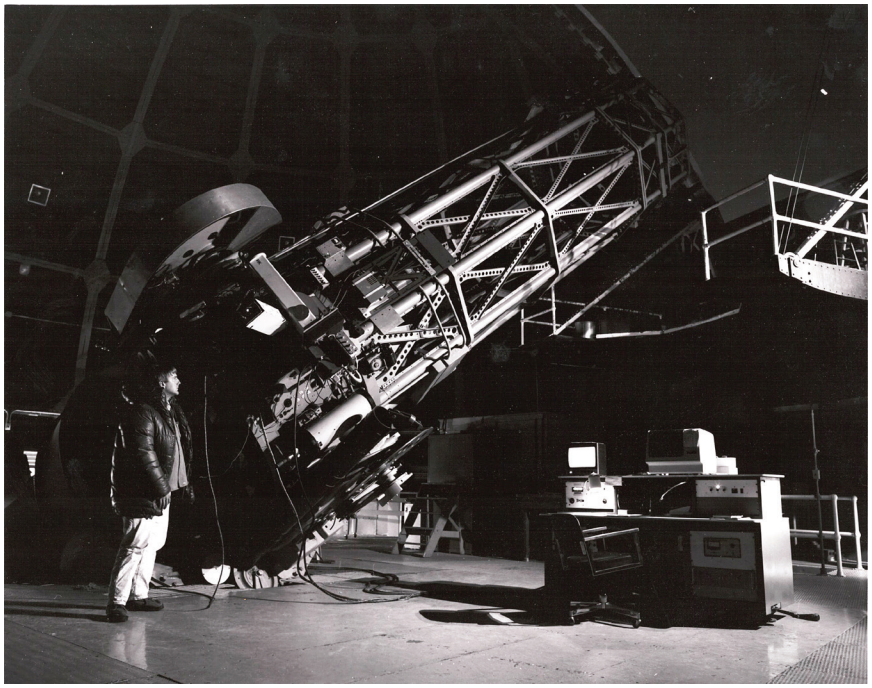
2:30pm **John Briggs** Skyscrapers, Inc.

Noble Instruments: Hale's Solar Telescopes and his Early Vision for the Solar-Stellar Connection (via Zoom)

In a well-illustrated presentation, John W. Briggs of New Mexico will describe how George Ellery Hale, a visionary, pioneering astronomer, was drawn into solar physics at an early age, and proceeded to devote his life to the construction and use of instruments and observatories, both for the Sun, and for what has come to be called the solar-stellar connection. Hale's writings continue to deserve study, and John will share examples of Hale's publications that remain easily available and enjoyably collectable.

John is a long-time member of Skyscrapers, a former trustee of Seagrave, and has lived and worked at far-ranging observatories in various technical capacities, including Mount Wilson, Yerkes, National Solar, Maria Mitchell, Van

Vleck, Venezuelan National, Chamberlin, and South Pole Station. He came to New Mexico with his family in 1997 to assist in the final commissioning of the Sloan Digital Sky Survey at Apache Point. In the 1980s he was an assistant editor at *Sky & Telescope* magazine, and built Bogsucker Observatory in Massachusetts. His principal activity now involves the Astronomical Lyceum, an informal museum, library, laboratory, and lecture hall devoted to historical astronomy and its preservation, and his role as secretary of the new Alliance of Historic Observatories.



The 60-inch telescope at Mount Wilson was for many years devoted full time to the long-running HK Project that studied the magnetic activity cycles of chromospherically active stars. The HK Project was a classic example of research for the "solar-stellar connection," a vision of which was obvious to George Ellery Hale from his student days. Photo by Steve Padilla, Mount Wilson solar observer, showing J. W. Briggs observing with the HK spectrophotometer circa 1988.

4:00pm **Jonathan Pober** Brown University

Mapping the Cosmic "Dark Ages" with Radio Astronomy From the Lunar Far Side

The so-called Cosmic "Dark Ages" -- the period in our Universe's history after the release of the Cosmic Microwave Background (CMB) and before the formation of the first stars -- are nearly unobservable, given the complete lack of luminous sources that existed at the time. However, low-frequency radio observations can measure the distribution of hydrogen gas during this era, providing a look into this heretofore-yet-unseen period of cosmic history. The very long wavelengths (greater than 10 meters) associated with this signal cannot be observed from the ground due to the opacity of Earth's ionosphere, necessitating a space-based mission. In this talk, I will further describe the motivations for such an experiment, and highlight the design considerations that will be required to make this ambitious project a reality.

Professor Pober works in the field of "21cm cosmology" -- a program of research to observe neutral hydrogen from the early universe through its hyperfine 21 cm emission line. His interests include both the development of new radio astronomy techniques to make these observations possible, and the physics of early universe galaxy formation and cosmology that they probe. He is a member of the PAPER, MWA, and HERA experiments. He arrived at Brown in January 2016; prior to that, he was a postdoctoral fellow at the University of Washington. He received his PhD from UC Berkeley in 2013. Prof. Pober was recently awarded a NASA Roman Technology Fellowship to study the feasibility of putting a radio telescope on the far side of the Moon.

5:00pm **Raffle Drawing & Astrophoto & Bake-off Winners Announced**

Astrophotography entries & voting:
theSkyscrapers.org/astrophoto2022