

2021 Stellafane Convention

The 85th Convention of Amateur Telescope Makers on Breezy Hill in Springfield, Vermont

43° 16' 41" North Latitude, 72° 31' 10" West Longitude

Thursday, August 5 – Sunday, August 8, 2021

"For it is true that astronomy, from a popular standpoint, is handicapped by the inability of the average workman to own an expensive astronomical telescope. It is also true that if an amateur starts out to build a telescope just for fun, he will find before his labors are over that he has become seriously interested in the wonderful mechanism of our universe. And finally there is understandably the stimulus of being able to unlock the mysteries of the heavens by a tool fashioned by one's own hand."

—Russell W. Porter, Founder of Stellafane, March, 1923

SOME STELLAFANE HISTORY



In 1920, when a decent astronomical telescope was far beyond the average worker's means, Russell W. Porter offered to help some Springfield machine tool factory workers to build their own. Together, they ground, polished, and figured mirrors, completed their telescopes, and began using them, soon becoming thoroughly captivated by amateur astronomy. By 1923 they had formed a club, the Springfield Telescope Makers, and had built Stellafane (originally "Stellar Fane"), our now legendary Clubhouse. By 1925 their activities had drawn the attention of magazine editors including Web Waldron at *Collier's* and Albert Ingalls at *Scientific American*. They visited the club, and soon published articles

about telescope making. This generated interest across the country, and the club decided to invite other amateurs to visit. On July 3, 1926, 29 people came to Breezy Hill, and the Stellafane Convention was established. It's been held every year since, except during World War II and, due to the pandemic, in 2020. The Convention grew rapidly, and today nearly a thousand enthusiastic amateurs make the pilgrimage to Springfield.

STELLAFANE EAST

In 1986, faced with the loss of access to a neighboring field that had been the Convention's camping area, the STM, with the support of members who mortgaged their homes, purchased a 40-acre farm across the road from the original Stellafane site. This became known as Stellafane East. In 1998, STM member Harty Beardsley donated another adjacent 45 acres, ensuring that the Convention has room for growth.

THE MCGREGOR OBSERVATORY

The McGregor Observatory at Stellafane East was constructed by the club between 1989 and 1995. It houses a unique instrument—a 13" f/10 Schupmann telescope on a massive computer controlled alt-az mount. For a time it was the largest operating Schupmann in the world. This design, which combines reflective and refractive elements, yields a coma-free and essentially apochromatic image, and is ideal for planetary observation. The Schupmann is operated during Convention. Photo by Dennis di Cicco.



BE SURE TO VISIT THE ORIGINAL STELLAFANE SITE

Since so much of the Convention takes place at Stellafane East, it's all too easy to miss the fun of seeing the original Stellafane Clubhouse and the Porter Turret Telescope on Breezy Hill. Catch the shuttlebus near the Food Tent or the main camping area, or just take the short walk down the road opposite the entry "fruit stand" where you checked in. The original site, including the Clubhouse and the Porter Turret Telescope, was designated a National Historic Landmark in 1989. It remains the location for the Stellafane Convention's optical and mechanical competitions for amateur-built telescopes.

THE STELLAFANE CLUBHOUSE



The Clubhouse was designed by Russell Porter and constructed by the members. The pink color may simply have been that of donated paint, but it has been hallowed by long tradition. Many fascinating memorabilia of the club's earlier days can be seen here. Although it's now a tight fit with today's larger membership roster,

the Springfield Telescope Makers still hold some meetings at the Stellafane Clubhouse. Photo is from the 1930s.

THE PORTER TURRET TELESCOPE

The Porter Turret Telescope was constructed in 1930 by the club. Porter had endured more than his share of winter cold on polar expeditions early in his career. Following Hartness's turret refractor design, he devised a way to build a reflecting telescope that also allowed the observer to remain indoors on the coldest winter nights.



Extensively renovated in the 1970s and fitted with new optics, the Porter Turret remains an excellent instrument. Photo is from the 1930s.

THE ANDREW SIMONI OBSERVATORY

Now completed on Breezy Hill, this new building houses a restored 1930s spectrohelioscope, donated and restored by STM members. An invention of George Ellery Hale, the spectrohelioscope produces an image of the Sun in any desired visual wavelength. The spectrohelioscope will operate as weather permits during Convention.

IMPORTANT: STELLAFANE PANDEMIC POLICY

In mid-June, Vermont became the first state in the nation to reach a vaccination rate of 80% of its eligible citizens. As previously planned, the state has lifted all pandemic related restrictions and orders and Vermont is "fully open." Stellafane will follow CDC and Vermont state guidance. If you are fully vaccinated, you do not need to wear a mask or socially distance, but you are welcome to do either if that is more comfortable for you.

IF YOU ARE NOT VACCINATED YOU MUST WEAR A MASK AND PRACTICE SOCIAL DISTANCING.

If CDC or Vermont guidance changes before or during convention, we will change our rules to follow it, and you must follow those rules or you will have to leave the Convention.

Schedule of Events and Presentations

KIDS=ACTIVITY FOR CHILDREN **NTA**=FOR THOSE NEW TO ASTRONOMY **INT**=INTERMEDIATE **ADV**=ADVANCED
ATM=AMATEUR TELESCOPE MAKING **COMP**=TELESCOPE COMPETITION **ALL**=SUITABLE FOR EVERYONE **MCE**=MAJOR CONVENTION EVENT **OBS**=OBSERVING

PLEASE SEE DESCRIPTIONS ON FOLLOWING PAGES FOR MORE INFORMATION

Please note that due to the pandemic, this program is subject to change. We will do our best to replace any programming that is cancelled due to pandemic-related circumstances.

THURSDAY, AUGUST 5, 2021

Noon- 4pm	Large RV Permit Holders must arrive	Entry Gate	PLEASE DON'T ARRIVE BEFORE NOON!	
3pm-10pm	Early Entry Permit Holders can arrive	Entry Gate	PLEASE DON'T ARRIVE BEFORE 3PM!	
8:30pm-Midnight	Observing Olympics	Observing Fields	Coordinated by Eileen Myers	Telescopes & Binoculars
9pm-Midnight	Porter Turret Telescope open for observing	Weather Permitting		OBS
9pm-Midnight	McGregor Observatory open for observing	Weather Permitting		OBS

FRIDAY, AUGUST 6, 2021

8am	Registration Gate Opens			
9am- 6pm	Porter Turret Telescope open	Weather Permitting		OBS
9am- 5pm	Cook Spectroheliograph, Simoni Observatory open for Solar observing	Weather Permitting		OBS
10am- 6pm	Shuttle Bus Operates	Bus Stops: Pine Island, Food Tent, Pink Clubhouse		
10am- 4pm	McGregor Observatory open	Weather Permitting		<i>obs</i>
10am- 4pm	TELESCOPE MAKING DEMO	Tent by T-Shirt Sales	Organized by Mike Hayes	ATM
10am-10:30am	Intro & Rough Grinding	Presented by Glenn Jackson		ATM
10:30am-11am	Fine Grinding	Presented by Rick Hunter		ATM
11am-11:30am	Making Dental Stone Tools	Presented by TBD		ATM
11:30am-Noon	Making Pitch Laps	Presented by Phil Rounseville		ATM

1pm- 1:45pm	Polishing & Figuring	Presented by Dick Parker	ATM
2pm- 4pm	Testing (Bring your own mirror)	With Dave Kelly & Doug Arion	ATM
Noon- 1pm	Artificial Star Field	<i>Flanders Pavilion</i> Presented by Steven Bellavia	INT
1pm- 2pm	Astronomy Activities for Children	<i>behind McGregor</i> Presented by Kris Larsen Ages 5-12; Limited to first 12	KIDS
1pm- 2pm	Eight Decades (or more) of Telescope Making in Washington, DC	<i>Flanders Pavilion</i> Presented by Guy Brandenburg	INT
2pm- 3pm	TALK: How DSLR Astro-Imaging Has Changed in the Last 10 Years	<i>Flanders Pavilion</i> Presented by AI Takeda	INT
2pm- 3pm	Solar Observing Hour	<i>Observing Fields</i> Please set up your Solar Scope and Share	OBS
2pm- 6pm	Breuning Observatory (Domed Observatory) open	<i>weather permitting</i>	OBS
3pm- 4pm	A Dipper Full of Stars	<i>Flanders Pavilion</i> Presented by Richard Sanderson	NTA
3:30pm- 4:30pm	DEMO: How DSLR Astro-Imaging Has Changed in the Last 10 Years	<i>by the Breuning Domed Observatory</i> Presented by AI Takeda	INT
4pm- 5pm	Introduction to Binoculars	<i>Flanders Pavilion</i> Presented by Phil Harrington	NTA
5pm- 6:30pm	Free Time	<i>Relax or Enjoy Dinner</i> No on-site talks or demos scheduled	ALL
5pm- 8pm	Telescope Competition: Registration	<i>Clubhouse</i> Optical and Mechanical Registration	COMP
6:30pm- 7:30pm	Friday Evening Videos	<i>Flanders Pavilion</i> Astronomy documentaries for the whole family	ALL
7:30pm	FRIDAY EVENING INFORMAL TALKS	<i>Flanders Pavilion</i> Bruce Beford, MC Short presentations by Attendees	MCE
8pm-Midnight	McGregor Observatory open for observing	<i>Weather Permitting</i>	OBS
8pm-Midnight	Porter Turret Telescope open for observing	<i>Weather Permitting</i>	OBS
8:30pm-Midnight	Observing Olympics	<i>Observing Fields</i> Coordinated by Eileen Myers Telescopes & Binoculars	OBS
9pm-Midnight	Breuning Observatory (Domed Observatory) open for observing	<i>Weather Permitting</i>	OBS
10pm	Registration Gate Closes		
10pm	Optical Telescope Competition Begins	<i>Fields around Clubhouse</i>	COMP

SATURDAY, AUGUST 7, 2021

7am	Registration Gate Opens		
7am-Noon	SWAP TABLE	<i>North of Main Camping Area</i>	MCE
8am- 6pm	McGregor Observatory open	<i>Weather Permitting</i>	<i>obs</i>
8am- 6pm	Porter Turret Telescope open for Solar observing	<i>Weather Permitting</i>	OBS
8am- 9:30am	Telescope Competition: Registration	<i>Clubhouse</i> Mechanical (and Optical if needed) Registration	COMP
8am- 5pm	Cook Spectroheliograph, Simoni Observatory open for Solar observing	<i>Weather Permitting</i>	OBS
9am- 5pm	Shuttle Bus Operates	<i>Bus Stops: Pine Island, Food Tent, Pink Clubhouse</i>	
10am- 4pm	TELESCOPE MAKING DEMO	<i>Tent by T-Shirt Sales</i> Organized by Mike Hayes	ATM
10am-10:30am	Intro & Rough Grinding	Presented by Mike Hayes	ATM
10:30am-11am	Fine Grinding	Presented by Mike Hayes	ATM
11am-11:30am	Making Dental Stone Tools	Presented by TBD	ATM
11:30am-Noon	Making Pitch Laps	Presented by Phil Rounseville	ATM
1pm- 1:45pm	Polishing & Figuring	Presented by Dick Parker	ATM
2pm- 4pm	Dobsonian Basics	Presented by Ken Slater	ATM
10am-11am	Introduction to Stellafane	<i>Flanders Pavilion</i> Presented by Kim & Dennis Cassia	NTA
10am- 1pm	Telescope Competition: Mechanical	<i>Fields around Clubhouse</i>	COMP
11am-Noon	The Hubble Space Telescope	<i>Flanders Pavilion</i> Presented by Jim Jeletic	INT

11:30am-12:30pm	Telescope Field Walk	Meet at Front of Clubhouse	Led by David McGaw	NTA
Noon- 1pm	Photomultipliers, their Operation, Circuit Design & Applications	Flanders Pavilion	Presented by Paul Schuler	ADV
1pm- 2pm	Astronomy Activities for Children	behind McGregor	Presented by Kris Larsen Ages 5-12; Limited to first 12	KIDS
1pm- 2pm	International Initiatives on Light Pollution	Flanders Pavilion	Presented by Mario Motta	INT
2pm- 6pm	Breuning Observatory (Domed Observatory) open	weather permitting		<i>obs</i>
2pm- 3pm	Solar Observing Hour	Observing Fields	Please set up your Solar Scope and Share	OBS
2pm- 3pm	Leo, the Next Generation in Portable 3D Printed Direct Drive Mounts	Flanders Pavilion	Presented by Aaron Sliski	ADV
3pm- 4pm	Cover Calibrator	Flanders Pavilion	Presented by Alan Sliski	ADV
4pm- 5:30pm	Sir William Herschel: The Greatest Telescope Builder of His Time, the Greatest Visual Observer of All Time	Flanders Pavilion	Presented by Larry Mitchell	ADV
5:30pm- 7pm	Free Time	Relax or Enjoy Dinner	No on-site talks or demos scheduled	ALL
7pm	KEYNOTE PROGRAM	Amphitheater (Flanders Pavilion if rain)	Raffle & Awards, Shadowgram, Keynote Talk	MCE
8:30pm-Midnight	Observing Olympics	Observing Fields	Coordinated by Eileen Myers Telescopes & Binoculars	OBS
9pm-Midnight	Breuning Observatory (Domed Observatory) open for observing	Weather Permitting		OBS
9pm-Midnight	Porter Turret Telescope open for observing	Weather Permitting		OBS
9pm-Midnight	McGregor Observatory open for observing	Weather Permitting		OBS
10pm	Telescope Competition: Optical Begins	Fields around Clubhouse	(Only if not held Friday)	COMP

SUNDAY, AUGUST 8, 2021

8am-Noon	Convention Cleanup	Please clean up around your campsite. Please put trash in the dumpsters		ALL
10:30am-11:30am	Observing Olympics	Hillside below McGregor	Coordinated by Eileen Myers Award Pins Only	OBS

Event and Presentation Details

FOR CHILDREN

There will be two 1-hour astronomy workshops for children

Each session has a different activity. These astronomy workshops have been held at the Stellafane Convention since 1995. Led by Dr. Kristine Larsen, Professor of Astronomy at Central Connecticut State University and a member of the Springfield Telescope Makers, each of the two 1-hour workshops includes several activities geared for children ages 5-12. Younger children are welcome but will need help from a parent.

Because COVID-19 vaccines will not be available to children under 12 by the time of convention, the children's activities will be held outside, in the shaded area behind the McGregor Observatory, weather permitting (no rain).

Due to space limitations, each workshop is limited to 12 children on a first-come basis. Late-comers may be turned away.

Friday 1 PM: PLANETS! Make models of several planets to take home

Saturday 1 PM: LIGHT AND TELESCOPES: Explore properties of light and how telescopes work. Take home UV bead bracelets and diffraction grating glasses.

AMATEUR TELESCOPE MAKING DEMOS

Mirror Making Demo: Grinding Tools, Rough Grinding, Fine Grinding, Pitch Laps, Polishing, and Figuring

Friday 10am- 4pm and Saturday 10am - 5pm (see specific times & topics in schedule on previous pages); Tent north of the T-shirt sales area, organized by Mike Hayes. This is a HANDS-ON mirror making demonstration. Gain first-hand experience working on mirrors at every

stage of grinding, polishing and testing. Experienced ATMs will help explain each step of the process and answer any questions you may have. The 24" mirror we have been working on for several years will be available for grinding- please sign the log book when you work on it.

Dobsonian Basics

Saturday 2pm - 4pm; tent north of the T-shirt sales area. Ken Slater, creator of the Stellafane Dobsonian described on the STM website, takes you through the basics of constructing a simple and inexpensive astronomical telescope that performs well and can be made with common hand tools.

FOR THOSE NEW TO ASTRONOMY

A Dipper Full of Stars

Fri 3pm - 4pm; Flanders Pavilion. Presented by Richard Sanderson. Using images of constellations, planets and celestial objects, Richard will treat you to a tour of the summer nighttime sky, showing you many of the prominent summer constellations. You will also learn how and why the sky appears to move throughout the night, and from season to season, and understand the significance of the North Star. Richard will also discuss the possibility of life on other worlds and explain how stargazers are able to peer into the remote past.

Introduction to Binoculars

Fri 4pm - 5pm; Flanders Pavilion. Presented by Phil Harrington. Binoculars are NOT just for beginners, as this talk will stress. After various binocular-related terms are defined, Phil will offer consumer tips to help the audience weed out astronomically worthy binoculars from a vast ocean of models currently available.

Introduction to Stellafane

Sat 10am - 11am; Flanders Pavilion. Presented by Kim & Dennis Cassia. Are you

ADVANCED LEVEL TALKS

Photomultipliers, their Operation, Circuit Design & Applications

Sat Noon - 1pm; Flanders Pavilion, Presented by Paul Schuler. Photomultipliers are a breed of "single pixel" optical detectors which as a part of their design provide internal amplification as well as detection. As such they are very close to being a noiseless optical detector of enormous sensitivity and range from the near infrared to the near ultraviolet. They lend themselves very well to applications in optical astronomy where extremely low light level detection is required such as Photoelectric Photometry (e.g. Variable Star Photometry) and Emission Nebulae Spectroscopy, to name a few.

Leo, the Next Generation in Portable 3D Printed Direct Drive Mounts

Sat 2pm - 3pm, Flanders Pavilion. Presented by Aaron Sliski. The Leo series of mounts is a fresh new way to look at a direct drive mount. The Leo mount solves nearly all of the problems of a traditional mount, with infinite azimuth rotation, no dangling wires, no communication problems because of USB limitations, and is lightweight. The Leo mount is a 3D printed L-shaped mount with very high damping and modular design. This will be an in depth talk about the technology that surrounds this new mount and how Aaron got there.

Cover Calibrator

Sat 3pm - 4pm, Flanders Pavilion. Presented by Alan Sliski A group of dedicated amateur astronomers is working to develop and distribute a series of Arduino based astronomical gadgets for use with automated observatories. The two projects presently underway are a weather safety monitor to provide information on rain and cloud cover, and a flat field illuminator that has an optional motorized cover function and the ability to control up to 4 colors of LEDs for flat fielding. These will be distributed as open source projects through the Astro Makers part of the Instrumentation section of AAVSO. These devices use the Alpaca communication protocol of ASCOM Remote.

Sir William Herschel: The Greatest Telescope Builder Of His Time, the Greatest Visual Observer of All Time

Sat 4pm - 5:30pm, Flanders Pavilion. Presented by Larry Mitchell. Larry's lecture will be about the life and times of Sir William Herschel, the greatest visual observer of all time and the best telescope builder of his time. He truly was the father of modern day astronomy and was the discoverer of many things, some of which are astonishing. His "Construction of the Heavens" provided the basis for astronomical scientific thought for the next hundred years. The story of how we acquired the knowledge we have is every bit as interesting as the knowledge we have, or think we have. A lot has been written about Herschel, but Larry has an unaltered original copy of all of his published papers, so he will provide information which is found nowhere else. Herschel's sister Caroline and son John were equally driven, so the members of his entire immediate family were amazing people. Larry also will cover a few of the objects on the observing list, all of which were discovered by Herschel.

OTHER PROGRAMS FOR EVERYONE

Solar Observing

Friday and Saturday 2-3pm; (weather permitting) in the observing fields near the Pink Clubhouse and the McGregor Observatory. All attendees with solar filters or projection set-ups are encouraged to share the Sun with other attendees. The McGregor will be set up for solar observing as well.

Friday Evening Videos

Friday at 6:30 to 7:30 pm in the Flanders Pavilion. Short astronomy documentaries for the whole family.

STELLAFANE OBSERVING OLYMPICS

Thursday and Friday evenings from 8:30 to midnight, and Saturday following the Keynote program until midnight, in the Observing Fields below the McGregor Observatory, Coordinated by Eileen Myers. A challenge to observe at least 15 deep sky objects, accessible in small to large amateur telescopes, has been developed for us by Larry Mitchell, who is in charge of the Texas Star Party Advanced Observing Program. A Binocular Observing List has also been developed by Phil Harrington, well known for his writings on binocular astronomy. This year's Observing Olympics will have fun new lists of objects to search for and learn about. Try your observing skills and earn a pin for your efforts. More information is available at stellafane.org/convention/2021/2021-observing.

familiar with these terms: "The Pink", "Tent Talks" or "The Turret"? If not, if this is your first time attending the Stellafane Convention, or if you are returning and want to learn more about who the Springfield Telescope Makers are, as well as what is going on during the Convention, then this presentation is for you. Topics include, but are not limited to: A short history of Stellafane, a description of our site, including the buildings and landmarks, descriptions of the scheduled talks and activities, services available at Stellafane, local services off site, etc., in addition to answering any questions you may have about the Convention.

Telescope Field Walk

Sat 11:30am - 12:30pm; Meet at Front of Clubhouse. Led by David McGaw. During the "Telescope Field Walk" an experienced Amateur Telescope Maker will guide small groups through the fields around the Pink Clubhouse, where the telescopes that will be participating in the mechanical competition will be set up. Dave will describe the various types of optical designs and mounting configurations that will be on display, point out the subtle details that go into award winning telescopes and be available to answer your questions.

INTERMEDIATE LEVEL TALKS

Artificial Star Field

Fri Noon - 1pm; Flanders Pavilion. Presented by Steven Bellavia. It is common to use an artificial star when collimating a telescope indoors. However, this single-star method only allows for an on-center collimation and does not take into account off-axis asymmetries caused by tilt. Steven has made a device that he calls an Artificial Star Field. The artificial star field is a set of 9 precision, laser-drilled pinholes, with a bright diffuse back-lighting. With the telescope positioned the correct distance from the field, and properly aligned, the entire field of an eyepiece or camera can be used to inspect and correct for tilted optics or tilted camera sensors.

Eight Decades (or more) of Telescope Making in Washington, DC

Fri 1pm - 2pm, Flanders Pavilion. Presented by Guy Brandenburg. The National Capital Astronomers of Washington, DC have been sponsoring amateur telescope making workshops in the DC area since before World War Two. This talk will highlight some of the successes and failures of the various projects engaged in by local ATMers.

How DSLR Astro-Imaging Has Changed in the Last 10 Years

Talk: Fri 2pm - 3pm, Flanders Pavilion; **Demo: Fri 3:30pm - 4:30pm,** by the Breuning Domed Observatory. Presented by Al Takeda. Change is constant. As you observe the night sky you will find that nothing stays the same. Planets move, comets appear, solar and lunar eclipse circumstances change, and meteor trails can be short or spectacular. It is the same with DSLR astrophotography. In his presentation, Al Takeda will discuss how DSLR imaging has changed since he gave his first Stellafane DSLR astro-imaging lecture 10 years ago. He will discuss changes in camera hardware, software and imaging techniques. Al will also talk about how amateurs with DSLR's can help the professional astronomy community. Al will run a 1-hour astrophotography demonstration by the Breuning Observatory (Domed Observatory) starting at 3:30pm.

The Hubble Space Telescope

Sat 11am - Noon, Flanders Pavilion. Presented by Jim Jeletic. This talk will give an overview of the Hubble Space Telescope. It will include a discussion of its design and its plans for the future. Also discussed will be the use of astronaut servicing missions that have doubled the life of the spacecraft to date.

International Initiatives on Light Pollution

Sat 1pm - 2pm, Flanders Pavilion. Presented by Mario Motta. Dr. Mario Motta was asked to represent the American Medical Association at an international conference jointly run by COPUOS (UN Committee on Peaceful Uses of Outer Space) and the IAU (International Astronomical Union). This committee was charged with producing an international understanding on various issues such as light pollution, satellite proliferation, radio spectrum disruption, etc. Mario was assigned to the light pollution subcommittee specifically to address human health concerns with light pollution. After 6 months of effort a 279-page document was produced. It was ratified on a weeklong international Zoom meeting in October 2020 rather than in person as was initially planned. A follow up meeting is planned this October 2021 in the Canary Islands, which Mario will attend. This document is to be presented to the full UN for acceptance, and hopefully will lead to international agreements on these issues.

THE STELLAFANE RAFFLE

The famous **Stellafane Raffle** offers spectacular donated prizes to lucky winners. Your odds of winning are really good. The money raised goes to support next year's Convention and to make capital improvements to the Convention site. Tickets are available next to the T-shirt stand (across from the Food Tent) and from designated STM members roaming the site. We appreciate the generosity of our donors, and your support by purchasing raffle tickets. Thank you all very much!

FRIDAY EVENING INFORMAL TALKS

Fri 7:30pm; Flanders Pavilion. Bruce Beford, MC. Short presentations by Convention Attendees. If you wish to contribute a short talk during this session, please register online. Talks are limited to 10 minutes and 20 slides. The time limit will be strictly enforced! A digital projector will be available for your use. Please bring your presentation on a USB stick.

SATURDAY SWAP TABLES

Saturday 7am-noon. The Swap Tables are located at the northeast edge of the main camping/parking area. They are provided to give amateurs an opportunity to trade, buy or sell their surplus astronomical and telescope related items. **IMPORTANT: see Swap Table Policy, below on this page.**

SATURDAY KEYNOTE PROGRAM

Saturday 7 pm; in the hillside amphitheater. (In case of inclement weather, the program will be held inside the Flanders Pavilion). Dr. Mario Motta, of the Springfield Telescope Makers, will be master of ceremonies.

- Greetings, announcements, children's raffle and raffle drawing
- Stellafane Shadowgram: Dr. Kris Larsen
- Presentation of Telescope Competition Awards
- Stellafane Keynote Talk by DR. STELLA KAFKA: What Is the Deal with Betelgeuse?

SUNDAY CLEANUP

Sunday 8 am - noon, please clean up around your campsite and parking area. All trash should be deposited in one of the large dumpsters by the Food Tent or Exit Lane. Please make sure there are no obstacles to grass mowing in the fields—any rocks, stakes, or other hazards should be returned to the woods or taken to the dumpsters. If you would like to take down rebar and string, we would appreciate that. Pile rebar and string on the side of the road, where it will be easy for us to find and pick up. Thanks!

Advice, Guidelines, and Policies

To ensure your enjoyment and safety at The Stellafane Convention, please read this section carefully.

Due to the challenges of the pandemic, we have made some changes.

Emergencies and First Aid

In case of emergency please contact Security (by the gate) or any STM member. If you have a family service radio, you may contact Convention staff via channel 7 (please avoid non-emergency use of this channel at Convention). **First aid kits are located in the T-shirt stand, the McGregor Observatory, and the Clubhouse.** We have trained medical staff on site.

Where to Set Up your Telescope

We strongly recommend that you set up your telescope in the fields around the Clubhouse or in the field to the south of the McGregor Observatory. Your telescope does not have to be entered in the competition, and **all telescopes are welcome, commercial or homemade.** You may not set up your telescope in a designated parking area. The darkest conditions are available near the Clubhouse, as far south as possible. Please consult the site map as well as the signs posted throughout the Convention site for the designated parking locations. Note: You can drive up to the Clubhouse area in daylight hours to drop off and pick up your telescope but there is no extended parking as space is extremely limited. Please move your car to a designated parking area at Stellafane East as soon as possible.

Lighting Policy

Stellafane does not allow open white lights on clear nights, except for one half hour after the Friday and Saturday evening talks end. Vehicular travel after this time is strongly discouraged and is done only at the risk of the operator. Red filter paper for flashlights is available at the Clubhouse and at the Bunkhouse. We thank you for your cooperation.

Laser Pointer Policy

Lasers pointers can be a helpful tools for astronomers, but can be dangerous if not properly used. Direct viewing of a laser-pointer beam, even briefly and at a distance of a kilometer or two, has the potential to cause temporary blindness – the same effect you get right after a flash photo is taken – or afterimages. These effects last anywhere from seconds to minutes. Glare, which is a reduction or loss of central vision, lasts only as long as exposure to the beam. All these effects could be disastrous if they struck a person operating machinery, driving a car, or flying a plane.

To help use your laser tools safely, the Springfield Telescope Makers, Inc. has adopted these recommendations as policy. These are based on the suggestions from the Laser Institute of America and published in May 2005 by *Sky and Telescope*.

- Laser pointers are designed to illuminate inanimate objects. Never shine a laser pointer toward any person, aircraft, or other vehicle.
- Never look directly into a beam of a laser pointer of any type.
- Do not allow children to use a laser pointer unsupervised. Laser pointers are not toys.
- If your telescope is equipped with a laser pointer that has a "constant on" setting, do not leave the instrument unattended with the laser switched on.
- Do not aim a laser pointer towards mirrors or other shiny surfaces. The reflected beam may inadvertently strike someone in the eye.
- Do not aim a laser pointer skyward if you hear or see an aircraft of any kind flying overhead.
- Laser pointers shall not be used in the Clubhouse observing fields.
- Additional laser use restrictions may be put into place by the Springfield Telescope Makers, Inc. as situations arise.
- The Convention staff, at its sole discretion, may terminate or prohibit use of lasers by any person on Springfield Telescope Makers, Inc. property.

Smoking Policy

Smoking of any substance, including vaping, is prohibited at all times in the Pavilion, Clubhouse, amphitheater, and observatories. Individuals may request that you not smoke within 6 feet of their personal telescope set up in any observing field.

Swap Table Policy

For the sake of historical continuity, to preserve the uniqueness of the Stellafane Convention and to encourage conventioners to build their own instruments, the Springfield Telescope Makers, Inc. do not allow commercial sales, of any kind, at the Stellafane Convention. All swap table sales must comply, in concept, with the above objective but are also specifically subject to the following criteria:

- Only surplus astronomical, telescope and telescope making related items may be sold.
- Each person will be allowed 16 square feet of table or ground space.
- Items which have the appearance of being specifically purchased or

manufactured for sale at the Swap Tables may not be sold.

• All sales must take place within the designated Swap Table area only between 7 am and noon, the Saturday of the Stellafane Convention.

The Springfield Telescope Makers, Inc. may choose to grant a limited exception to the above policies to astronomy related organizations for their fundraising. Any request for an exemption must be made, in writing, at least one month prior to the Convention. If granted, the President of the Springfield Telescope Makers, Inc. will notify the requesting organization in writing.

Any member of the Springfield Telescope Makers, Inc. has the authority to determine whether a party is in compliance with the established regulations. Any person who is found to be in violation of the stated policies will be required to comply. Failing compliance, the offending party will be asked to leave the Convention and may be escorted from the premises by Convention Security.

The Springfield Telescope Makers, Inc. encourages those with questions regarding this policy to contact the Club via the Stellafane web page at www.stellafane.org. During the Convention, any questions regarding this policy, the appropriateness of items being displayed, or any information being disseminated, should be directed to a member of the Springfield Telescope Makers, Inc.

Food Service

The food service tent is located just to the south of the Bunkhouse. As this Bulletin goes to press we are still working with a new vendor to finalize our food service schedule. As of now we expect breakfast, lunch, and dinner to be available Friday and Saturday, and breakfast on Sunday. Special pre-ordered dinners such as the lobster and chicken dinners offered in prior years will likely not be available this year. **In light of COVID we plan on allowing for increased spacing under the food tent.** We fully understand that many people will be seeing friends for the first time in a couple of years and may feel inclined to sit and talk, but given the reduced seating we encourage you to leave as soon as your meals are finished to allow for everyone to have a chance to sit or meals.

Shuttle Bus

The Shuttle Bus makes two stops in Stellafane East, one by the Food Tent and one by the main Camping Area (See Stellafane East Site Map). It makes one stop on Breezy Hill near the Clubhouse.

Family Service Radios

The Convention staff uses family service radio channel 7 to facilitate communications during the Convention. **Please avoid use of channel 7 when you are at the Convention site, except in emergencies.**

2 Meter Repeater: W1STM

There is usually a 2 meter Ham Radio repeater, call sign W1STM, operating at 14,527 MHz on site.

Cell Phone Service

Be advised that cell phone service is “spotty” in hilly southern Vermont. Good coverage is generally available near interstates and town centers, but gets less reliable as you move off into the countryside. At Stellafane, you might have to move about the site to get a connection, but most carriers do have a useable signal at least in some (higher) areas of our site. If you can see Mt. Ascutney to the north, you will likely have service.

Campfires Not Allowed

Open campfires are not permitted. If you are camping and/or cooking on the Stellafane site, you must use approved cooking equipment such as a portable grill or camp stove. Do not cut any trees. Also, always be careful about disposal of cigarette butts.

Golf Carts and ATVs

No personal golf carts or ATVs will be allowed at Convention. Only golf carts and ATVs being used for official Convention purposes will be allowed.

Generators and Recharging

Use of generators is discouraged at Convention. Properly muffled RV generators and quiet portable generators of 1,000 watts or less may be used between the hours of 9 am to 6 pm in the camping areas only. Generators may never be used in the observing fields, after dark, or at other locations at Stellafane. The generator must not create a hazard. Any complaint of unsafe operation or excessive noise will immediately cause the generator to be banned from operation.

There are outlets along the walls of both the McGregor Observatory and the Flanders Pavilion that may be used for recharging batteries and portable devices. However, the Springfield Telescope Makers accept no responsibility for unattended property.

Pet Policy

The Springfield Telescope Makers, Inc. welcomes you to bring your pets to the Stellafane Convention, provided the following rules are followed:

- **Pets must be confined, leashed or otherwise under the physical control of a person at all times. Leashes may not exceed 6 feet in length. Pets that are tethered at the campsite cannot be left unattended for more than 30 minutes. Pets may not be tied to trees, bushes, tables or shelter facilities, even when the owners are present.**
- **Pets must be well-behaved at all times. Pets must be confined in the owner's camping unit during quiet hours (11 pm – 8 am).**
- **Pet owners are required to pick up after their pets and properly dispose of all pet droppings in trash receptacles.**
- **Any pet that is noisy, dangerous, intimidating or destructive will not be allowed to remain at the Convention.**

Failure to comply with the above rules will result in you and your pet being asked to leave the Convention; you may be escorted from the premises by Convention security. The Springfield Telescope Makers, Inc. thanks you in advance for helping to make the Stellafane Convention more enjoyable for everyone. Enjoy the Convention!

Lost and Found

The lost and found is located at the T-shirt stand across from the Food Tent.

STELLAFANE WEBSITE

We Want Your Photos and Videos!

The Stellafane website (Stellafane.org) offers extensive how-to information and links on telescope making, and detailed Stellafane history. You'll also find accounts and photos from past Conventions there, and of course we will post many photos from this Convention in the weeks following the event, as well as the list of competition winners.

Your submissions are very welcome—please send your photos (or links to those you've uploaded to sharing sites) to webmaster@stellafane.org. Videos are welcomed as well, but please don't send them directly; use a sharing service like YouTube or Vimeo and send us a link.

STELLAFANE ENDOWMENT FUND

Please Help Us Preserve Stellafane

The Endowment Fund is intended to ensure that the birthplace of amateur telescope making is preserved for future generations by providing adequate funding to cover the basic costs of maintaining the Stellafane Clubhouse, the Porter Turret Telescope and the McGregor, Breuning, and Simoni Observatories, and other existing and future buildings and properties owned by the Springfield Telescope Makers, Inc. If you are interested in supporting the endowment fund you may do so by mail or online with our Donation Form at stellafane.org/help/donate-form.html.

+ EMERGENCIES AND FIRST AID +

IN CASE OF EMERGENCY PLEASE CONTACT SECURITY (BY THE GATE) OR ANY STM MEMBER. If you have a family service radio, you may contact Convention staff via channel 7 (please avoid non-emergency use of this channel at Convention). **First aid kits are located at the T-shirt stand the McGregor Observatory, and the Stellafane Clubhouse.** We have trained medical staff on site.

The Telescope Competition

The Heart and Soul of Stellafane

If you have built a telescope or a special gadget, or restored a historical instrument, we strongly encourage you to enter it in the competition!

Note: You can drive up to the Clubhouse area during daylight hours Friday or Saturday to drop off and pick up your telescope, but there is no extended parking as space is extremely limited. Please move your car to a designated parking area at Stellafane East as soon as possible. Telescopes may be entered in either competition or both competitions if you wish.

First Homemade Telescope Certificate

In order to further encourage and recognize telescope building, we are offering a certificate of recognition for first time telescope makers. You do not have to enter the competition if you do not want to, but you must bring your first homemade telescope to Breezy Hill and display it. Please register ahead of time online and check in at the Clubhouse. You will be awarded a certificate recognizing your efforts in building and displaying your first homemade telescope at Stellafane, and your name will be shown on the screen at the Saturday night program.

Master Class

In order to encourage first-time entrants to enter their scopes without feeling that they must be ready to compete with previous first-place winners and optical professionals who enter their amateur work, we have established a separate competition class for entrants with a track record of high achievement. Rules are available at the registration table.

Optical Competition

2021 OPTICAL JUDGING CHAIR: RICK HUNTER

Registration for the optical competition will take place on Friday from 5 pm to 8 pm in the Clubhouse. Keep in mind that if you have registered your instrument online, you must still check in at the Clubhouse Friday from 5 pm to 8 pm or your telescope will not be judged! Set up your scope on Breezy Hill before you check in and inform the judges of the location of your scope. If the position of your scope changes it is your responsibility to report its new location to the judges in the Clubhouse. Failure to do so will result in your scope not being judged!

All telescopes in the competition **must be fitted with an eyepiece with a focal length, in millimeters, approximately equal to the focal ratio of the instrument.** Your instrument must be properly collimated before judging begins at 10 pm. Also, **be prepared to point your scope at the star Altair** when the judges arrive. Please note that the judges may inspect your telescope more than once. Therefore, you should remain on the field with your instrument until the preliminary results are announced via loudspeaker. Note that judging can last until 2 or 3 am!

If the weather permits the completion of the judging on Friday night, the optical judging will be closed for the duration of the Convention and optical awards will be presented during the Saturday evening program. If the optical judging cannot be completed Friday night, it will be continued on Saturday night, weather permitting. Additional optical entries may be accepted on Saturday, at the discretion of the judges. To inquire about this possibility, please ask a judging representative in the Clubhouse from 5 pm to 8 pm on Friday or from 8 am to 9:30 am on Saturday.

In the event that the competition will have to be continued Saturday, some telescopes that were judged on Friday might need to be judged again. Please inquire with the judges if your scope will need to be available again on Saturday. If the optical judging cannot be completed by the end of Saturday night, a partial field of optical excellence awards may be given, at the discretion of the judges.

Please note that it is the intention of the Stellafane judging committee to have the optical competition completed Friday night, weather permitting. Therefore, to ensure that your instrument is judged you must be registered for the Friday night judging.

Clarification on "small" vs. "large" Newtonians: The small category includes any mirror of 12.5 inches optical diameter or less; the "large" category is for mirrors that are greater than 12.5 inches in diameter.

Mechanical Competition

2021 MECHANICAL JUDGING CHAIR: CHRIS HOUGHTON

Registration for the mechanical competition will be between 8 am and 9:30 am Saturday morning in the Clubhouse. Keep in mind that if you have registered your

instrument online, you must still check in at the Clubhouse Saturday morning or your telescope will not be judged. The telescope judging for mechanical excellence will begin at 10 am so please register your telescope as early as possible.

Only telescopes that are operative both mechanically and optically will be accepted in the mechanical competition. The judges will visit the telescopes in several small groups. You must attend your telescope until the end of the competition is announced via the loudspeaker. Be prepared to describe any special construction techniques and components to the judges. Awards for mechanical design, craftsmanship, special gadgets, restoration of historical instruments and junior telescopes, made by persons less than 16 years of age, will be awarded at the Saturday evening talks.

Mechanical design vs. craftsmanship: the mechanical award is for the design of the instrument, how unique it is compared with prior art, and its effectiveness in providing a useful instrument, while the craftsmanship award is for execution (how well the design was translated into a workable and functional instrument).

2019 COMPETITION WINNERS

OPTICAL

FIRST PLACE IN THE SMALL OPTICAL CATEGORY WAS A 3-WAY TIE:

Mathew Paul, Florida, NY, 6-inch f/8 Newtonian; **Steve Hannah**, Walpole, MA, 8-inch f/5.7 Newtonian Dob; **George Springston**, Plainfield, VT, 6-inch f/8 Newtonian Dob. **SECOND PLACE, SMALL OPTICAL CATEGORY: Steven Maiaroto & Grandson**, Lady Lake, FL, 8-inch f/6 Dob. **HONORABLE MENTION COMPOUND OPTICAL: Colin Caissie & Norman Myer**, Whitefield, f/24.7 Schiefspiegler

JUNIOR

FIRST PLACE JUNIOR OPTICAL & MECHANICAL:

Andrew Parenteau, Gilsum, NH 6-inch f/5 Newtonian Dob (FIRST TELESCOPE).

MECHANICAL

FIRST PLACE MECHANICAL DESIGN: Patrick Dodson, Sudbury, ON, 8-inch f/6 Newtonian Disk & Cone Equatorial. (FIRST TELESCOPE). **SECOND PLACE MECHANICAL DESIGN: George Springston**, Plainfield, VT, 6-inch f/8 Newtonian Dob. **THIRD PLACE MECHANICAL DESIGN: Daniel Bernstein**, Wellesley, MA, 8in f/5.9 Dob Travel Scope (FIRST TELESCOPE). **HONORABLE MENTION MECHANICAL DESIGN: Steven Maiaroto & Grandson**, Lady Lake, FL, 8-inch f/6 Dob. **FIRST PLACE CRAFTSMANSHIP: George Springston**, Plainfield, VT, 6-inch f/8 Newtonian Dob. **SECOND PLACE CRAFTSMANSHIP: Patrick Dodson**, Sudbury, ON, 8-inch f/6 Newtonian Disk & Cone Equatorial. **THIRD PLACE CRAFTSMANSHIP: Daniel Bernstein**, Wellesley, MA, 8in f/5.9 Dob Travel Scope

MASTER CLASS

FIRST PLACE MECHANICAL DESIGN: Joe Dechene, Nashua, NH, 4-inch f/7 refractor with convertible GEM/Alt-Az mount. **SECOND PLACE MECHANICAL DESIGN: Doug Arion**, Twin Mountain, NH, 120mm Newtonian transportable cube mount. **THIRD PLACE MECHANICAL DESIGN: Walter Campney**, Woodstock, ON, 8-inch f/5 Dob Travel Scope. **FIRST PLACE CRAFTSMANSHIP: Doug Arion**, Twin Mountain, NH, 120mm Newtonian transportable cube mount. **SECOND PLACE CRAFTSMANSHIP: Joe Dechene**, Nashua, NH, 4-inch f/7 Refractor with convertible GEM/Alt-Az mount. **THIRD PLACE CRAFTSMANSHIP: Walter Campney**, Woodstock, ON, 8-inch f/5 Dob Travel Scope

ANTIQUE RESTORATION

FIRST PLACE: Dave Groski: Hockessin, DE, 1960 Criterion Deluxe. **SECOND PLACE: Tom Kiehl**, Canton, OH, multiple telescopes and mounts **THIRD PLACE: Joe Zajac**, Harvard, MA, 1890(?) Meyrowitz 2.1in f/15 refractor.

SPECIAL AWARDS

FIRST PLACE SPECIAL AWARD: Corey Mooney, Maynard, MA, 3D-printed alt-az head with 5-inch disks. **SECOND PLACE INNOVATIVE COMPONENT: Keith Warner**, Whitinsville, MA, modified Porter mount from commercial go-to-GEM. **HONORABLE MENTION SPECIAL AWARD: Carl Lancaster**, Riverside, CT, *Star Trek* themed scope control panel.