

# 2022 Stellafane Convention

*The 86th Convention of Amateur Telescope Makers on Breezy Hill in Springfield, Vermont*  
**43° 16' 41" North Latitude, 72° 31' 10" West Longitude**  
**Thursday, July 28 – Sunday, July 31, 2022**

*"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 roughly 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 at near the Food Tent or at Pine Island (near 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 hal- lowed 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.



# A Century of Telescope Making

The Springfield Telescope Makers will celebrate our 100th anniversary next year. The historic first meeting of the Springfield Telescope Makers took place on December 7, 1923. We believe that makes us the oldest amateur telescope making and/or astronomy club in America. The minutes of the meeting show that a formal organization was created because the group was building a bungalow (Stellafane, originally Stellar Fane) on land owned by Russell Porter on Breezy Hill. We will celebrate with special events throughout the year, especially at next year's Stellafane Convention, August 17-20, 2023! To stay informed, sign up for our email list at [mail-list.stellafane.org/announce/mail.cgi](mailto:mail-list.stellafane.org/announce/mail.cgi). (The QR code at right will take you there.)



This year's convention is dedicated to **Paul Dellechiaie**, Optical Designer for TeleVue Optics and longtime Convention attendee. The Nagler family, our members, and many others will miss his cheerful presence.

## Schedule of Events and Presentations

**KIDS**=ACTIVITY FOR CHILDREN   **TEENS**=ACTIVITY FOR TEENS   **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

#### THURSDAY, JULY 28, 2022

8:30am – 5pm	Hartness House Workshop: Eclectic Astronomy <i>Hartness House</i> hosted by Thomas Spirock (Separate registration and fee for this workshop)	<b>MCE</b>
Noon – 4pm	Large RV permit holders <b>MUST</b> arrive <i>Entry Gate</i> <b>PLEASE DON'T ARRIVE BEFORE NOON!</b>	
3pm – 10pm	Early Entry permit holders <b>MAY</b> arrive <i>Entry Gate</i> <b>PLEASE DON'T ARRIVE BEFORE 3!</b>	
6pm – 9pm	Hartness House Workshop: Eclectic Astronomy <i>Hartness House</i> hosted by Thomas Spirock Dinner and Keynote (Separate registration and fee)	<b>MCE</b>
8:30pm – Midnight	<b>OBSERVING OLYMPICS</b> <i>Observing Fields</i> coordinated by Eileen Myers   telescopes & binoculars	<b>OBS</b>
9pm – Midnight	Observing at the Porter Turret Telescope and the McGregor Observatory's Schupmann telescope weather permitting	<b>OBS</b>

#### FRIDAY, JULY 29, 2022

8am	<b>REGISTRATION GATE OPENS</b>	
9am – 6pm	Porter Turret Telescope open for Solar observing   weather permitting	<b>OBS</b>
9am – 5pm	Cook Spectroheliograph (Simoni Observatory) open for Solar observing   weather permitting	<b>OBS</b>
10am – 6pm	Shuttle Bus operates <i>stops at Pine Island, food tent, Stellafane Clubhouse</i>	
10am – 4pm	McGregor Observatory open for Solar observing   weather permitting	<b>OBS</b>
10am – 4pm	<b>TELESCOPE MAKING DEMO</b> <i>Tent by T-Shirt Sales</i> organized by Michael Hayes & Read Predmore	<b>ATM</b>
10am – 10:30am	Intro & Rough Grinding   presented by Read Predmore	<b>ATM</b>
10:30am – 11am	Fine Grinding   presented by Rick Hunter	<b>ATM</b>
11am – 11:30am	Making Dental Stone Tools   presented by a member to be determined	<b>ATM</b>
11:30am – Noon	Making Pitch Laps   presented by Phil Rounseville	<b>ATM</b>

1pm – 1:45pm	<b>Polishing &amp; Figuring</b>	presented by Dick Parker	<b>ATM</b>
2pm – 4pm	<b>Testing (Bring your own mirror)</b>	with Dave Kelly & Doug Arion	<b>ATM</b>
11am – Noon	<b>A New Generation of Materials for Telescope Building: 3D Printing</b>	<i>Flanders Pavilion</i> presented by Doug Arion	<b>ATM, INT</b>
12:30pm – 1:30pm	<b>Solar System Walk</b>	<i>Meet at M44 (green shed) behind Stellafane Clubhouse</i> presented by Roger Williams	<b>NTA</b>
1pm – 5pm	<b>Teen Robotics Program</b>	<i>Bunkhouse</i> presented by Paul Fucile and Eimear Gallagher for ages 12-17	<b>TEENS</b>
1pm – 2pm	<b>Armchair Astronomy: A New Twist on the Polar Equatorial Telescope</b>	<i>Flanders Pavilion</i> Kevin McCarthy	<b>INT</b>
1pm	<b>Horseshoe Pitching Contest</b>	<i>Swap Table area</i> hosted by Wayne Zuhl ages 16 and under weather permitting	<b>KIDS &amp; TEENS</b>
2pm – 3pm	<b>Solar Observing Hour</b>	<i>observing fields</i> please set up your Solar scope and share	<b>OBS</b>
2pm – 3pm	<b>Astronomy Activities for Children: The Sun</b>	<i>McGregor Observatory</i> presented by Kris Larsen Ages 5-12; limited to first 15	<b>KIDS</b>
2pm – 3pm	<b>I Want to Believe: Returning to an Age of Reason</b>	<i>Flanders Pavilion</i> presented by Dean Regas	<b>NTA</b>
2pm – 6pm	<b>Breuning Observatory (Domed Observatory)</b>	<i>open for Solar observing</i> weather permitting	<b>OBS</b>
3pm – 4pm	<b>Operation Moonwatch: Citizen Science at the Dawn of the Space Age</b>	<i>Flanders Pavilion</i> presented by Richard Sanderson	<b>INT</b>
4pm – 5pm	<b>Nights of Future Passed</b>	<i>Flanders Pavilion</i> presented by Phil Harrington	<b>INT</b>
5pm – 8pm	<b>REGISTRATION FOR TELESCOPE COMPETITION</b>	<i>mechanical and optical</i> near Clubhouse	<b>COMP</b>
6:30pm – 7:30pm	<b>Friday Evening Videos</b>	<i>Flanders Pavilion</i> astronomy documentaries for the whole family	<b>ALL</b>
7:30pm	<b>Friday Evening Informal Talks</b>	<i>Flanders Pavilion</i> Bruce Beford, MC short presentations by Convention attendees	<b>MCE</b>
8pm – midnight	<b>Porter Turret Telescope and McGregor Observatory</b>	<i>open for observing</i> weather permitting	<b>OBS</b>
8:30pm – midnight	<b>OBSERVING OLYMPICS</b>	<i>observing fields</i> coordinated by Eileen Myers telescopes & binoculars	<b>OBS</b>
9pm – midnight	<b>Breuning Observatory (Domed Observatory)</b>	<i>open for observing</i> weather permitting	<b>OBS</b>
10pm	<b>OPTICAL TELESCOPE COMPETITION</b>	<i>fields around Stellafane Clubhouse</i>	<b>COMP</b>
10pm	Registration Gate Closes		
<b>SATURDAY, JULY 30, 2022</b>			
7am – Noon	<b>SWAP TABLES</b>	<i>Swap Table Area</i> North of main camping area	<b>MCE</b>
7am	Registration Gate Opens		
8am – 5pm	<b>Cook Spectroheliocope</b>	<i>open for Solar observing</i> weather permitting	<b>OBS</b>
8am – 6pm	<b>Porter Turret Telescope and McGregor Observatory</b>	<i>open for Solar observing</i> weather permitting	<b>OBS</b>
8am – 9:30am	<b>REGISTRATION FOR TELESCOPE COMPETITION</b>	<i>mechanical (and optical if needed)</i> near Clubhouse	<b>COMP</b>
9am – 5pm	<b>Shuttle Bus Operates</b>	<i>stops at Pine Island, food tent, Stellafane Clubhouse</i>	
10am – 4pm	<b>TELESCOPE MAKING DEMO</b>	<i>Tent by T-Shirt Sales</i> organized by Michael Hayes & Read Predmore	<b>ATM</b>
10am – 10:30am	<b>Intro &amp; Rough Grinding</b>	presented by Read Predmore	<b>ATM</b>
10:30am – 11am	<b>Fine Grinding</b>	presented by Mike Hayes	<b>ATM</b>
11am – 11:30am	<b>Making Dental Stone Tools</b>	presented by a member to be determined	<b>ATM</b>
11:30am – Noon	<b>Making Pitch Laps</b>	presented by Phil Rounseville	<b>ATM</b>
1pm – 1:45pm	<b>Polishing &amp; Figuring</b>	presented by Dick Parker	<b>ATM</b>
2pm – 4pm	<b>Dobsonian Basics</b>	presented by Glenn Jackson	<b>ATM</b>
10am – 11am	<b>Introduction to Stellafane</b>	<i>Flanders Pavilion</i> presented by Kim & Dennis Cassia	<b>ALL</b>
10am – 1pm	<b>MECHANICAL TELESCOPE COMPETITION</b>	<i>fields around Stellafane Clubhouse</i>	<b>COMP</b>
11am – Noon	<b>Observations of Nova RS Ophiuchi by Slitless Spectroscopy</b>	<i>Flanders Pavilion</i> presented by Clifton Ashcraft	<b>ADV</b>
11am – Noon	<b>Astronomy Activities for Children: Star Clocks and Star Finders</b>	<i>McGregor Observatory</i> presented by Kris Larsen Ages 5-12; limited to first 15	<b>KIDS</b>

11:30am – 12:30pm	<b>Telescope Field Walk</b> <i>meet at Front of Stellafane Clubhouse</i> led by David McGaw	<b>ALL</b>
12:30pm – 1:30pm	<b>Solar System Walk</b> <i>meet at M44 (green shed) behind Stellafane Clubhouse</i> presented by Roger Williams	<b>NTA</b>
1pm – 2pm	<b>Introducing the AAVSO Instrument and Equipment and AAVSONet Sections</b> <i>Flanders Pavilion</i> presented by Peter Bealo	<b>INT</b>
2pm – 3pm	<b>Solar Observing Hour</b> <i>observing fields</i> please set up your Solar scope and share	<b>OBS</b>
2pm – 3pm	<b>Astronomy Activities for Children: Comets and Meteorites</b> <i>McGregor Observatory</i> presented by Kris Larsen Ages 5-12; limited to first 15	<b>KIDS</b>
2pm – 6pm	<b>Breuning Observatory (Domed Observatory)</b> <i>open for observing</i> weather permitting	<b>OBS</b>
2pm – 3pm	<b>Two Years Work on a U.N. Committee for International Cooperation on Light Pollution</b> <i>Flanders Pavilion</i> presented by Mario Motta	<b>INT</b>
3pm – 4pm	<b>Building a CNC Router and Using It for Telescope Making</b> <i>Flanders Pavilion</i> presented by Alexander Varakin	<b>ADV, ATM</b>
4pm – 5:30pm	<b>The Hidden Gems of Stellafane</b> <i>Flanders Pavilion</i> presented by Larry Mitchell	<b>ADV</b>
7pm	<b>SATURDAY EVENING PROGRAM &amp; KEYNOTE TALK</b> <i>Thayer Amphitheater</i> <i>(Flanders Pavilion if rain)</i> Includes keynote address by <b>Dava Sobel</b> , Shadowgram, raffle & awards	<b>MCE</b>
8:30pm – Midnight	<b>Observing Olympics</b> <i>Observing Fields</i> coordinated by Eileen Myers telescopes & binoculars	<b>OBS</b>
9pm – Midnight	<b>Porter Turret Telescope, McGregor Observatory, and Breuning (domed) Observatory</b> <i>open for observing</i> weather permitting	<b>OBS</b>
10pm	<b>OPTICAL TELESCOPE COMPETITION</b> <i>fields around Clubhouse</i> (Only if not held Friday)	<b>COMP</b>
<b>SUNDAY, JULY 31, 2022</b>		
8am – Noon	<b>Convention Cleanup</b> <i>Please clean up around your campsite</i> please put trash in the dumpsters	<b>ALL</b>
10:30am – 11:30am	<b>OBSERVING OLYMPICS</b> <i>Hillside below McGregor</i> coordinated by Eileen Myers award pins only	<b>OBS</b>

# Event and Presentation Details

## FOR CHILDREN AND TEENS

### Astronomy Activities for Children

Friday 2pm – 3pm (The Sun) • Saturday 11am – 12pm (Star Clocks and Star Finders) • Saturday 2pm – 3pm (Comets and Meteorites), at McGregor Observatory, presented by Kris Larsen. Ages 5-12; Limited to first 15 for each session. There will be three 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 three 1-hour workshops includes several activities geared for children ages 5 – 12. Younger children are welcome but will need help from a parent. **Due to space limitations, each workshop is limited to 15 children on a first-come basis. Late-comers may be turned away.**

### Teen Robotics Program

Friday 1pm – 5pm, Bunkhouse, presented by Paul Fucile and Eimear Gallagher. Teens 12-17. The Stellafane Teen program participants this year will learn about the mission and technology behind the James Webb Space Telescope (JWST). Launched on the morning of December 25, 2021, the spacecraft coasted successfully into a stable orbit around Lagrange Point 2. Present operations involve precisely aligning the 18 mirror segments with the first Science images scheduled to appear this summer. Designed to perform infrared astronomy, a multi-layer heatshield will keep the instruments cool permitting a view deeper into space than before.

This will be a hands-on class where the group will work in teams to construct a JWST inspired technology that will be demonstrated at the Convention. Attendance will be first-come first-served. If you are 100% sure your teen will attend convention and will want to attend this event, then you'll need to get them on the list. Please email us directly at [robots@stellafane.org](mailto:robots@stellafane.org). Special note: There will be a lot of specialized instruction so you will need to be on time!

### Horseshoe Pitching Contest

Friday 1pm, Swap Table Area, for children and teens 16 and under, weather permitting, hosted by Wayne Zuhl. The overall winner of the event will win a telescope that they will assemble with 'Stargazer' Steve Dodson in the Pavilion Saturday morning. Complete information and rules (pdf) are available on the Convention web pages, at [tinyurl.com/stella-shoes](http://tinyurl.com/stella-shoes).

## AMATEUR TELESCOPE MAKING DEMOS

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

Friday and Saturday 10am – 4pm (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. Read Predmore will take you through the basics of constructing the Stellafane Dobsonian, a simple and inexpensive astronomical telescope that performs well and can be made with common hand tools.

## FOR THOSE NEW TO ASTRONOMY

### I Want to Believe: Returning to an Age of Reason

Friday 2pm – 3pm, Flanders Pavilion, presented by Dean Regas. After 20 years of public speaking at the Cincinnati Observatory, Dean Regas has heard every astronomy conspiracy theory and doomsday prediction in the universe – and frankly, he's worried. He's worried that we are slipping into an age of growing superstition. In this rational, often humorous lecture, Dean tackles such controversial topics as: The Mayan Calendar, Moon landing, UFO sightings, Doomsday Comets, Astrology, and the Star of Bethlehem. The truth is out there and Dean shows why it is important to confront superstitions head-on and how you can champion a new age of reason.

### Introduction to Stellafane

Saturday 10am – 11am, Flanders Pavilion, presented by Kim & Dennis Cassia. Are you 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 his-

tory 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.

### **Solar System Walk**

**Friday 12:30pm - 1:30pm, and Saturday 12:30pm - 1:30pm,** meet at M44 (Green Shed) behind the Stellafane Clubhouse, presented by Roger Williams. To illustrate the vast size of outer space, the Springfield Telescope Makers have constructed a scale model of the solar system, based on the Sun being 12 inches in diameter. At that scale, the Earth would be approximately 1/10 of an inch in diameter and 107 feet from the Sun. Jupiter would be 1.2 inches in diameter and approximately 560 feet from the Sun.

The Solar System Walk begins behind the Pink Clubhouse and proceeds down the road going towards the Stellafane camping area. At the appropriate distance from the scale model of the Sun, there are stations with the appropriate planet, built to scale, and a short description of each planet. The Solar System walk can be taken on your own at any time during the Convention. However, a guided walk is available at the times mentioned above, when a docent will provide additional information about the Solar System Walk and each particular planet. The walk takes approximately three-quarters of an hour, if you walk all the way to the planet Neptune, with a total distance of 3,232 feet or a little over a half mile.

### **Telescope Field Walk**

**Saturday 11:30am - 12:30pm,** meet at front of the Stellafane 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. They 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**

### **The New Generation of Materials for Telescope Building: 3D Printing**

**Friday 11am - 12 Noon,** Flanders Pavilion, presented by Doug Arion. Additive machining - 3D printing - represents a revolution in telescope making. Its importance ranges from the ability to make custom-fit parts to the huge cost reduction in making components that will help people afford telescopes. From mirror mounts to secondary holders, focusers, finder brackets, and electronics boxes, there is little in the structure of a telescope where 3D printing can't apply.

### **Armchair Astronomy:**

#### **A New Twist on the Polar Equatorial Telescope**

**Friday 1pm - 2pm,** Flanders Pavilion, presented by Kevin McCarthy. In this presentation, a new approach to the venerable tradition of fixed eyepiece viewing will be described. Ease of use, no setup, and observer comfort have always been important, no less so as we age. In the "Quad-Plex, Tropical Polar Single-Mirror Siderostat-Heliostat-Spectroscopy", aka, "Armchair Astronomy", any of four optical instruments index into the beam path of a 9-inch minor axis optical flat, which is mounted on a ten foot high truss tower to the south of one of our villas on the Caribbean island of St. John, USVI. The instruments are all comfortably arranged for viewing at a leather armchair in the loft of the great room, with Baader TurboFilm preventing convection through the loft shutter's aperture. During the day, solar observation and imaging is performed in white light, Hydrogen Alpha, and Calcium K, while at night, a TMB 130 mm f/6 triplet APO and Intes Micro 7-inch f/15 Maksutov-Cassegrain provide wide field and high magnification viewing and imaging, respectively. This talk will also briefly touch upon some other projects here: maximizing ease of use for a commercial 24-inch Dob on a two-axis equatorial platform, building an automated "roll-under" imaging observatory, and an elegant equatorial sundial inspired by a Stellafane visit long ago.

### **Operation Moonwatch:**

#### **Citizen Science at the Dawn of the Space Age**

**Friday 3pm - 4pm,** Flanders Pavilion, presented by Richard Sanderson. Richard Sanderson will discuss Operation Moonwatch, a worldwide citizen-science program that was active during the late 1950s and early 1960s. Teams comprised mostly of amateur astronomers and ordinary people made critically important observations of Sputnik and other early satellites. Richard will illustrate his presentation with photos of historical items from his Operation Moonwatch collection.

### **Nights of Future Passed**

**Friday 4pm - 5pm,** Flanders Pavilion, presented by Phil Harrington. This is not your grandparents' hobby! This presentation takes a poignant, sometimes comical, look back at how far our hobby and our equipment advanced in the 20th century. We will also look at how the rise of amateur telescope making influenced the commercial telescope marketplace forever.

### **Introducing the AAVSO Instrument & Equipment section, and AAVSONet**

**Saturday 1pm - 2pm,** Flanders Pavilion, presented by Peter Bealo. Most of AAVSO deals with observation and analysis of variable stars. The AAVSO I&E section works with people designing and manufacturing equipment to make observations easier, more reliable, more automated or that allow for observations previously difficult to achieve. We will discuss on-going I&E projects, the I&E Forum and how I&E members can help you develop your new idea.

AAVSONet is a worldwide network of automated telescopes that AAVSO members have access to for the purposes of collecting photometric observations of variable stars and exoplanets. We'll discuss the network, some current work being produced and how to propose new observing projects.

### **Two Years Work on a U.N. Committee for International Cooperation on Light Pollution**

**Saturday 2pm - 3pm,** Flanders Pavilion. Dr. Mario Motta spearheaded two widely read AMA white papers on light pollution. The papers were produced by the AMA Council on Science and Public Health, and changed the way lighting companies approach street lighting. In 2020 Mario was asked to join the United Nations "Committee On the Peaceful Uses of Outer Space" (COPUOS), under the sponsorship of Spain and the International Astronomical Union (IAU), whose mission is to promote and safeguard the science of astronomy in all of its aspects through international cooperation. COPUOS was to address worldwide light pollution as well as satellite proliferation, radio noise, and more. COPUOS produced a 296-page report now submitted to the U.N. General Assembly. That report is the subject of this talk. Mario will also report on the European-wide meeting "Responsible Outdoor Lighting At Night" (ROLAN 2022) held in May of 2022, at which 31 world-renowned speakers presented, including Dr. Motta.

## **ADVANCED LEVEL TALKS**

### **Observations of Nova RS Ophiuchi by Slitless Spectroscopy**

**Saturday 11am - 12pm,** Flanders Pavilion, presented by Clifton Ashcraft. I obtained both slitless spectra and magnitude estimates during the August 8, 2021 outburst of recurrent nova RS Ophiuchi. My observations covered the period from August 13, 4 days after discovery, to October 31 when it had subsided close to pre-outburst magnitude. Magnitude estimates were made by comparison to known brightness field stars in wide field images taken with an ASI174MC camera at the focus of a 55 mm camera lens. Spectra were obtained using an ASI178MM CMOS video camera with the sensor located 74 mm behind a 100 line/mm transmission grating and at the f/11 focus of a 14" Celestron SCT. Initial spectra were dominated by Hydrogen emission lines, with Helium, Oxygen and Iron emission lines becoming more prominent as the nova decreased in brightness. These changes in both spectra and magnitudes were very similar to those of the previous outburst in 2006.

### **Building a CNC Router and Using It for Telescope Making**

**Saturday 3pm - 4pm,** Flanders Pavilion, presented by Alexander Varakin. You will learn how to build a CNC router with 28"x34"x5" work envelope for less than \$1000 and use it for various telescope making projects. The projects presented will be a 15-inch hexapod Dobsonian and rough grinding of a telescope mirror.

### **The Hidden Gems of Stellafane**

**Saturday 4pm - 5:30pm,** Flanders Pavilion, presented by Larry Mitchell. Larry will talk about the objects on the 2022 Stellafane Observing Olympics list, and will present some of the latest published technical information that has resulted in contradictory theories. Details are on the Observing Olympics web page at [tinyurl.com/observingolympics](http://tinyurl.com/observingolympics).

## **OBSERVING**

### **Solar Observing Hour**

**Friday and Saturday, 2pm - 3pm,** Observing Fields. Please set up your Solar Scope and share. All attendees with solar filters or projection set-ups are encouraged to share the Sun with other attendees. The Simoni and Porter Turret observatories will be set up for solar observing as well.

### **Observing Olympics**

**Thursday, Friday, & Saturday 8:30pm - midnight or later,** Observing Fields, Coordinated by Eileen Myers. Telescopes & Binoculars. See [tinyurl.com/observingolympics](http://tinyurl.com/observingolympics) for details and observing lists.

**Sunday 10:30am - 11:30am,** Hillside below McGregor, Coordinated by Eileen Myers Award Pins Only.

### **Cook Spectroheliocope**

**Friday & Saturday, 9am - 5pm,** Simoni Observatory, Solar Observing (weather permitting). The circa 1930 Cook Spectroheliocope will be observing solar prominences and sunspots in hydrogen-alpha light. The Simoni Observatory is northwest of the Stellafane Clubhouse on Breezy Hill.

### Porter Turret Telescope

The 1930 Porter Turret Telescope is located just north of the clubhouse on Breezy Hill. Observing, weather permitting:

- Thursday 9pm - midnight,
- Friday 9am - 6pm (Solar)
- Friday 8pm - midnight
- Saturday 8am - 6pm (Solar)
- Saturday 9pm - midnight

### McGregor Observatory

The McGregor Observatory, home of the 13-inch Schupmann Refractor, is located on a hilltop in the northwest corner of Stellafane East. Observing, weather permitting:

- Thursday 9pm - midnight,
- Friday 10am - 4pm (Solar)
- Friday 8pm - midnight
- Saturday 8am - 6pm (Solar)
- Saturday 9pm - midnight

### Breuning Observatory (Domed Observatory)

The domed Breuning Observatory is located just south of and downhill from the McGregor Observatory.

- Friday 2pm - 6pm (Solar)
- Friday 9pm - midnight
- Saturday 2pm - 6pm (Solar)
- Saturday 9pm - midnight

## 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

# Advice, Guidelines, and Policies

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

### 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 Bunkhouse, the McGregor Observatory, and the Clubhouse. We have trained medical staff on site.

### Where to Set Up your Telescope

Most people set up their telescopes in the field to the south of the McGregor Observatory, although there are other areas within Stellafane East that are useable. You may not set up your telescope in a designated parking area, in the outdoor amphitheater area, or any place else it might be in the way of other activities. Use common sense, and please consult the site map as well as the signs posted throughout the Convention site for the designated parking locations.

If you register your homemade or antique telescope for the Competition, to compete or for "Display Only", you may drive up to the Clubhouse area in the daylight hours to drop it off and pick it up. However, 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 T-shirt stand. 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.

site. We appreciate the generosity of our donors, and your support by purchasing raffle tickets. You must be present at the Saturday Keynote Program to win. Thank you all very much!

## FRIDAY EVENING INFORMAL TALKS

**Friday 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 in on page 8.**

## 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
- Presentation of Telescope Competition Awards
- Stellafane Shadowgram: Dr. Kris Larsen: Holding up Half the Sky—Women in Astronomy
- Stellafane Keynote Talk by Dava Sobel: Building the Glass Universe

## 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!

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.

### 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 7am 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](http://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.

### 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.

### Generators

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 9am and 6pm 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.

### 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.

### Electrical Outlets

There are outlets in the McGregor Observatory and just inside the main entrance to the Flanders Pavilion that may be used for recharging batteries and portable devices. The Springfield Telescope Makers accept no responsibility for unattended property. **No extension cords may be used. Convention attendees may not use any other indoor or outdoor outlets anywhere on our campus for any purpose. This is an important safety precaution, and it will be strictly enforced.**

### Food Service

The main Food Service Tent is located just to the south of the Bunkhouse. Note: This Food Service Tent is open all night if you need a snack and/or coffee during your observing session. Food service will be available for Thursday dinner and for Friday breakfast if you are using our Early Entry Permit option.

### Shuttle Bus

The Shuttle Bus makes two stops in Stellafane East, one by the Food Tent and one by the main camping area ("Pine Island;" 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 a 2 meter Ham Radio repeater in continuous operation on site, call sign W1STM, operating at 147.15 MHz, +600kHz offset, no tone.

### 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.

### 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. Individuals may request that you to not allow your pet within 6 feet of their personal telescope or photographic equipment set up in an observing area.**
- **Pets must be well-behaved at all times. Pets must be confined in the owner's camping unit during quiet hours (11pm – 8am).**
- **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!

### Stellafane Endowment Fund

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, Bruening, 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](http://stellafane.org/help/donate-form.html). Thanks!

### Lost and Found

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

## Stellafane Website



### We Want Your Photos and Videos!

The Stellafane website ([Stellafane.org](http://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](mailto: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.**

## + 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

2022 OPTICAL JUDGING CHAIR: RICK HUNTER

Registration for the optical competition will take place on Friday from 5pm to 8pm in the Clubhouse. Keep in mind that if you have registered your instrument online, you must still check in at the Clubhouse Friday from 5pm to 8pm 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 10pm. 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 3am!

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 5pm to 8pm on Friday or from 8am to 9:30am 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

2022 MECHANICAL JUDGING CHAIR: CHRIS HOUGHTON

Registration for the mechanical competition will be between 8am and 9:30am 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 10am 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).

## LAST YEAR'S COMPETITION WINNERS

### OPTICAL

**FIRST PLACE SMALL NEWTONIAN (TIE):** Gavin Buckowski, Belchertown, MA, 6-inch f/8 Newt Dob; **Michael Patterson**, Hinesburg, VT, 8-inch f/5.4 Newt GEM.  
**SECOND PLACE SMALL NEWTONIAN:** none. **THIRD PLACE SMALL NEWTONIAN (TIE):** James Tully, Charlton, MA, 8-inch f/7 Newt Poncet; **Steven Bodine**, North Brookfield, MA, 8-inch f/5.4 Newt Dob

### MECHANICAL

**FIRST PLACE MECHANICAL DESIGN:** Alexander Varakin, Parsippany-Troy Hills, NJ, 14.7-inch f/4.32 Newt Dob; **SECOND PLACE MECHANICAL DESIGN:** Steven Bodine, North Brookfield, MA, 8-inch f/5.4 Newt Dob; **THIRD PLACE MECHANICAL DESIGN:** Michael Patterson, Hinesburg, VT, 8-inch f/5.4 Newt GEM; **HONORABLE MENTION MECHANICAL DESIGN:** Demetrios Papadopoulos and Mike Spooner, Mt. Pleasant, SC, 12-inch f/4.593 Newt Dob; **FIRST PLACE CRAFTSMANSHIP:** Steven Bodine, North Brookfield, MA, 8-inch f/5.4 Newt Dob; **SECOND PLACE CRAFTSMANSHIP:** Michael Patterson, Hinesburg, VT, 8-inch f/5.4 Newt GEM; **THIRD PLACE CRAFTSMANSHIP:** Alexander Varakin, Parsippany-Troy Hills, NJ, 14.7-inch f/4.32 Newt Dob

### MASTER CLASS

**FIRST PLACE OPTICAL (COMPOUND TELESCOPE):** Dave Kelly, Easthampton, MA, 4-inch f/15 refractor GEM; **FIRST PLACE OPTICAL (SMALL NEWTONIAN):** Demetrios Papadopoulos and Mike Spooner, Mt. Pleasant, SC, 12-inch f/4.593 Newt Dob; **SECOND PLACE OPTICAL:** Joe Dechene, Nashua, NH, 6-inch f/8 Newt Dob; **THIRD PLACE OPTICAL:** Larry Shaper, Thetford Center, VT, 7-inch f/5 Newt alt/az; **FIRST PLACE MECHANICAL DESIGN:** Peter Wraight, Skillman, NJ, 2x 4½-inch f/8 Newt binoscope; **SECOND PLACE MECHANICAL DESIGN:** Joe Dechene, Nashua, NH, 6-inch f/8 Newt Dob; **FIRST PLACE CRAFTSMANSHIP:** Joe Dechene, Nashua, NH, 6-inch f/8 Newt Dob; **SECOND PLACE CRAFTSMANSHIP:** Peter Wraight, Skillman, NJ, 2x 4½-inch f/8 Newt binoscope

### ANTIQUÉ RESTORATION

**FIRST PLACE:** Alan Sliski, Lincoln, MA, 4-inch f/15 refractor; **SECOND PLACE:** Anthony Costanzo, Plaistow, NH, 3½-inch f/15 Maksutov (Questar)

### SPECIAL AWARDS

**FIRST PLACE SPECIAL AWARD:** Keith Warner, Whitinsville, MA, 3D-Printed Eyepiece turret / filter wheel / diagonal; **SECOND PLACE SPECIAL AWARD:** Matthew Paul, Montague, NJ, 6-inch f/20 Dall-Kirkham GEM; **THIRD PLACE SPECIAL AWARD:** Larry Shaper, Thetford Center, VT, 7-inch f/5 Newt alt/az; **HONORABLE MENTION SPECIAL AWARD:** Steven Bellavia, Mattituck, NY, artificial star field for collimation of telescopes; **INNOVATIVE COMPONENT AWARDS:** Alexander Varakin, Parsippany-Troy Hills, NJ, collimation truss system; Kevin Clay, Milford, CT, continuously variable spring balance