

2012 Stellafane Convention

The 77th Convention of Amateur Telescope Makers on Breezy Hill in Springfield, Vermont

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

Thursday, August 16 to Sunday, August 19, 2012

"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 a group of Springfield machine tool factory workers 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, our now legendary clubhouse. In 1925 their activities drew the attention of Albert Ingalls, an editor at Scientific American. He visited the club, and soon began publishing articles by Porter and others 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 the Second World War. The convention grew rapidly, and today around a thousand enthusiastic amateurs make the pilgrimage to Springfield.

THE SITE

The original Stellafane site on Breezy Hill remains the location for the telescope competition, and of course is where the Stellafane clubhouse and Porter Turret Telescope are located. In 1986, faced with the loss of access to an adjacent 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.

EMERGENCIES AND FIRST AID AT CONVENTION:

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 Pink Clubhouse.**

We have trained medical staff on site.

THE STELLAFANE CLUBHOUSE

The clubhouse was designed by 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. Although it's now a tight fit with today's larger membership roster, the Springfield Telescope Makers still hold meetings at Stellafane. The original site, including the clubhouse and the Porter Turret Telescope, was designated a National Historic Landmark in 1989. Photo is from 1930s.



THE PORTER TURRET TELESCOPE

The Porter Turret Telescope was constructed in 1930 by the club. Porter, who had endured more than his share of winter cold on polar expeditions early in his career, invented a design that allowed the observer to remain indoors and comfortable on the coldest winter nights. Extensively renovated including new optics in the 1970s, the Porter Turret remains an excellent instrument, and is operated during Convention, night and day (for solar observation). Photo is from 1930s.



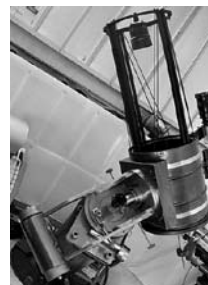
THE MCGREGOR OBSERVATORY

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 mounted on a massive computer controlled alt-az mounting. 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.



THE DOMED OBSERVATORY

Stellafane East also hosts a beautiful 10" Ritchey-Chrétien telescope mounted on a Springfield Mount (another Porter design), built by Dino Argentini in 1964 and eventually donated to the club. It is housed in a domed observatory built in 2006, just south of the McGregor Observatory. This telescope's stationary eyepiece is accessible to wheelchair users.



Schedule of Events and Presentations

EVENT KEY: **C**=ACTIVITY FOR CHILDREN **N**=FOR THOSE NEW TO ASTRONOMY **I**=INTERMEDIATE LEVEL **A**=ADVANCED LEVEL
TM=TELESCOPE MAKING **TC**=TELESCOPE COMPETITION **E**=SUITABLE FOR EVERYONE **M**=MAJOR CONVENTION EVENT

THURSDAY, AUGUST 16, 2012

| | | | | |
|--------------|--|---------------------------------|--|----------|
| 8 am - 8 pm | Hartness House Workshop on Historical Telescopes | Hartness House | Separate Registration and Fees for this Workshop | |
| 12 pm - 4 pm | Large RV Permit Holders must arrive | Entry Gate | | |
| 3 pm - 10 pm | Early Entry Permit Holders can arrive | Entry Gate | Please don't arrive before 3! | |
| 8:30 pm - | Observing with the Hartness Turret Telescope | Hartness House Turret Telescope | Weather Permitting | E |

FRIDAY, AUGUST 17, 2012

| | | | | |
|----------------|--|---|---|--------------|
| 9 am | Registration Gate Opens | entry gate | | |
| 10 am - 6 pm | Shuttle Bus Operates | Shuttle Bus Stops: Pine Island, Food Tent, Pink Clubhouse | | |
| 11 am -12 pm | Astronomy Activities for Children: Comets | McGregor Observatory Library | Ages 5-12 | C |
| 11 am -12 pm | The History of New England Astronomy | Flanders Pavilion | Presented by Carl Malikowski | I |
| 12 pm -6 pm | Mirror Making Demonstration | Tent north of Flanders Pavilion | | TM |
| 1 pm | Myths of Mirror Making | McGregor Observatory Library | Presented by Dave Kelly | A, TM |
| 1 pm | Solar System Walk | Meet at Green Shed near Clubhouse | Presented by Al Tinker | N |
| 1 pm - 2 pm | Bringing 100 years of Photographic Plates into the 21st Century | Flanders Pavilion | Presented by Steve Lieber | I |
| 2 pm | Introduction to Stellafane | McGregor Observatory Library | Presented by Kim Cassia, Dennis Cassia, or Gary Cislak | N |
| 2 pm - 3 pm | Solar Observing Hour | Observing Fields | Please set up your Solar Scope and Share | E |
| 2 pm - 3 pm | High Quality Astro-Imaging on the Cheap (Talk) | Flanders Pavilion | Presented by Al Takeda (Demo Friday 8 pm) | I |
| 3 pm - 4 pm | Astronomy Activities for Children: Craters | McGregor Observatory Library | Ages 5-12 | C |
| 3 pm | The Bustling Community of Asteroid Watchers | Flanders Pavilion | Presented by John Briggs | I |
| 4 pm | Inside the Mind of a Judge: Reflections on the Stellafane Telescope Making Competition | Flanders Pavilion | Pres. by Dave Kelly | I, TM |
| 4 pm | Meteorite Show and Tell | McGregor Observatory Library | Presented by Wayne Zuhl and Peter Sherff | E |
| 5 pm - 8 pm | Registration for Optical Competition | Tent near Clubhouse | You must check in at the judging tent | TC |
| 5 pm - 8 pm | Porter-Hartness ATM Museum Open | Museum Open | Hartness House | E |
| 5:30 pm | Meteorite Men Cocktail Hour Meet and Greet | Hartness House in Springfield | (additional \$20 fee for this event) | E |
| 6 pm - 7 pm | Free Time | Relax or Enjoy Dinner | An hour with nothing scheduled | |
| 7 pm | Introduction to Stellafane | McGregor Observatory Library | Presented by Kim Cassia, Dennis Cassia, or Gary Cislak | N |
| 7 pm - 8:15 pm | Undaunted—The Forgotten Giants of Allegheny Observatory | Flanders Pavilion | Movie: 62 Minutes | E |
| 8 pm | High Quality Astro-Imaging on the Cheap (Demo) | Next to Domed Observatory | Presented by Al Takeda (Talk Friday 2 pm) | I |
| 8:30 pm | Informal Talks | Flanders Pavilion | Short presentations by Convention Attendees | M |
| 10 pm | Learning and Enjoying the Night Sky | McGregor Observatory | Presented by Dave Siegrist (held regardless of weather) | N |
| 10 pm | Optical Competition Begins | Fields around Clubhouse | if clouded out, will be held on Saturday | TC |
| 10 pm | Registration Gate Closes | Entry Gate | | |

SATURDAY, AUGUST 18, 2012

| | | | | |
|--------------|-------------------------|--|--|----------|
| 7 am - | Registration Gate Opens | Entry Gate | | |
| 7 am - 12 pm | Swap Tables | Swap Table Area - North of Main Camping Area | | M |

| | | | | |
|----------------|--|---|--|--------------|
| 8 am - 9:30 am | Registration for Telescope Mechanical Competition | Tent near Clubhouse | You must check in at the judging tent | TC |
| 9 am - 5 pm | Shuttle Bus Operates | Shuttle Bus Stops: Pine Island, Food Tent, Pink Clubhouse | | |
| 9:30 am - 1 pm | Mirror Making Demonstration | Tent north of Pavilion | | |
| 10 am | Introduction to Stellafane | McGregor Observatory Library | Presented by Kim Cassia, Dennis Cassia, or Gary Cislak | N |
| 10 am | Telescope Field Walk | Meet in front of Pink Clubhouse | Presented by Carl Malikowski and John Vogt | N |
| 10 am - 1 pm | Telescope Mechanical Competition | Fields around Clubhouse | | |
| 11 am - 12 pm | Astronomy Activities for Children: The Sun | McGregor Observatory Library | Ages 5-12 | C |
| 11 am - 12 pm | A Dipper Full of Stars | Flanders Pavilion | Presented by Richard Sanderson | N |
| 1 pm | Solar System Walk | Meet at Green Shed near Clubhouse | Presented by Al Tinker | N |
| 1 pm | Getting Started in Solar Observing | McGregor Observatory Library | Presented by Paul Cicchetti | I |
| 1 pm - 2 pm | Restoration of a Classic 9½-inch Refractor | Flanders Pavilion | Presented by Alan Sliski | A |
| 2 pm | Intro to Collimation | McGregor Observatory Library | Presented by Dick Parker | I |
| 2 pm | Meteorite Men Book Signing | in the field near the Food Tent | | |
| 2 pm - 3 pm | Light Weight Mirrors in the Age of Expensive Glass | Flanders Pavilion | Presented by Larry Shaper | A, TM |
| 2 pm - 3 pm | Solar Observing Hour | Observing Fields | Please set up your Solar Scope and Share | E |
| 3 pm | Making and Using a Herschel Wedge—Pros and Cons | Flanders Pavilion | Paul Valleli | A, TM |
| 3 pm - 4 pm | AAVSO: Getting started in Visual Variable Star Observing | McGregor Observatory Library | Presented by Richard Kinne | I |
| 4 pm - 5 pm | Protecting those Expensive Large Optical Coatings | Flanders Pavilion | Presented by Mario Motta | A |
| 4 pm - 5 pm | Astronomy Activities for Children: The Northern Lights | McGregor Observatory Library | Ages 5-12 | C |
| 5 pm - 6 pm | An Introduction to Telescopes for All Ages | McGregor Observatory Library | Presented by Glenn Chaple & Alan French | N |
| 5 pm - 8 pm | Registration for Optical Competition | Telescope Competition | Tent near Clubhouse (Only if clouded out on Friday) | TC |
| 6 pm - 7 pm | Free Time | Relax or Enjoy Dinner | An hour with nothing scheduled | |
| 7 pm | Saturday Evening Program & Keynote Talk | Amphitheater (Pavilion if rain) | Includes Keynote, Shadowgram, Raffle & Awards | M |
| 10 pm | Discover and Enjoy the Night Sky | McGregor Obs. Library | Presented by John Briggs & Steve Dodson (Held regardless of weather) | N |
| 10 pm | Optical Competition Begins (only if clouded out on Friday) | Fields around Clubhouse | | |

Event and Presentation Details

AMATEUR TELESCOPE MAKING

Mirror Making Demonstration

Friday Noon until 6 pm, Saturday 9:30 am until 1 pm, Tent north of the Flanders Pavilion. 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.

Myths of Mirror Making

Friday 1 pm in the McGregor Observatory Library, intermediate level. STM master mirror maker Dave Kelly will debunk myths about mirror making that persist from the early days of glass technology, including interferometry vs. knife edge testing.

Inside the Mind of a Judge: Reflections on the Stellafane Telescope Making Competition

Friday, 4 pm in the Flanders Pavilion, intermediate level. Have you ever thought about making your own telescope, or have you made your own telescope and wondered if you should enter it into the Stellafane competition? Long-time judge Dave Kelly will explain the judging process and answer your questions about what the judges look for in an award-winning instrument.

Light Weight Mirrors in the Age of Expensive Glass

Saturday 2 pm in the Flanders Pavilion, advanced level. Presented by Larry Shaper. With the escalating price of Borosilicate glass, this is a good time to test the limit of how little glass you can use to make a stable mirror. Although very light sandwich and cast cellular blanks are available, their cost is high. By tapering the thickness of a thin mirror blank and performing the Foucault test in the right way, an excellent, light weight mirror can be made.

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Making and Using a Herschel Wedge-Pros and Cons

Saturday 3 pm in the Flanders Pavilion, advanced level. Presented by Paul Valleli. Buying one-off optical components has become impractical in the United States due to labor costs. Observing the sun in white light presents a technical challenge but with the option of several alternatives. The speaker will discuss how an Optical Wedge is made, the alternative choices, and why the use of a Herschel wedge is attractive.

FOR THOSE NEW TO ASTRONOMY

Solar System Walk

Friday and Saturday 1 pm, meet at Green Shed on south side of Clubhouse. Presented by Al Tinker. 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 docent Allen Tinker 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 one half mile.

Introduction to Stellafane

Friday at 2 pm and 7 pm; Saturday 10 am at the McGregor Observatory Library, presented by Kim Cassia, Dennis Cassia, or Gary Cislak. Are you familiar with these terms: "The Pink", "Tent Talks" or "The Turret"? If not—whether this is your first time attending the Stellafane convention, or you just want to learn more about who the Springfield Telescope Makers are and what goes on during the convention—this presentation is for you. We'll provide a short history of Stellafane and a description of our site including the buildings and landmarks, and information about the scheduled talks and activities. We'll tell you where to find services available at Stellafane and off site, and we'll answer any questions you may have about the convention.

Learning and Enjoying the Night Sky

Friday, 10 pm and Saturday, 10 pm in the McGregor Observatory Library. Presented by Dave Siegrist (Friday), and John Briggs & Steve Dodson (Saturday). Held regardless of weather. Beginners will be introduced to observing the sky, including identifying the constellations, the Milky Way, etc.

Telescope Field Walk

Saturday, 10 am, meet in front of the Pink Clubhouse. During the "Telescope Field Walk" Carl Malikowski and John Vogt, experienced amateur telescope makers, 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.

A Dipper Full of Stars

Saturday 11 am in the Flanders Pavilion, presented by Richard Sanderson. Using stunning images of constellations, planets, and celestial objects, Richard Sanderson will lead an interpretive tour of the summer nighttime

sky. He will describe how the sky appears to move throughout the night and from season to season, and explain the significance of the North Star. He will speculate about life on other worlds and show many of the prominent summer constellations. The presentation is aimed at beginners of all ages.

An Introduction to Telescopes for All Ages

Saturday, 5 pm in the McGregor Observatory Library. Presented by Glenn Chaple & Alan French. Adults and youngsters often become interested in astronomy and acquiring a telescope for exploring the heavens. With the plethora of telescopes on the market, buying your first telescope, or a telescope for a child, can be intimidating. In this program Alan French & Glenn Chapel will cover telescope basics (types, mounts, and eyepieces), telescopes suitable for children, and introduce you to observing and finding sights in the night sky.

INTERMEDIATE LEVEL ASTRONOMY

The History of New England Astronomy

Friday 11 am in the Flanders Pavilion, presented by Carl Malikowski. Discover how New England, particularly the Connecticut River Valley, had a pivotal role in Astronomy. We will be covering the demographics, people and events that have been instrumental in shaping Astronomy as we know it today. Come join us and re-discover the past that shaped today and our future!

Bringing 100 years of Photographic Plates into the 21st Century

Friday 1 pm in the Flanders Pavilion, presented by Steve Lieber. Harvard Observatory holds the world's largest collection of glass plates. These astronomical photographs include an all sky study that lasted almost a century. This report will give details about this project, and the current efforts to digitize these plates and make them available on the web.

High Quality Astro-Imaging on the Cheap

Friday 2 pm (talk) in the Flanders Pavilion; **Friday 8 pm** near the Domed Observatory (demo). Demo **Saturday after the main talk** if clouded out on Friday). Presented by Al Takeda.

We have all seen the wonderful amateur images presented in various astronomy publications taken by cameras and telescopes that cost as much as a luxury car. Yet, in spite of that hurdle, many people would still like to dabble in astrophotography but not have to mortgage the house or go into debt to do it.

In this presentation, Al Takeda will discuss how to create great astrophotographs using low to moderately priced cameras and telescopes. Topics will include the types of cameras to choose, what telescopes or lenses to use, what imaging platform will work, what shutter releases to use, the targets to choose and what software to use to post-process your captured photos. Al will demonstrate those low cost techniques in real time on Friday evening (Saturday evening if clouded out) using his astro-imaging system. The location will be next to the Domed Observatory.

Recent Science from Small Observatories: The Bustling Community of Asteroid Watchers

Friday 3 pm in the Flanders Pavilion, presented by John Briggs of HUT Observatory, Eagle, Colorado. Modern imaging and computer technology are allowing backyard and school observatories to participate on the world stage of asteroid science -- including the discovery of binary asteroids. The presentation will highlight recent results published in Minor Planet Bulletin and demonstrate some popular current techniques.

Getting Started in Solar Observing

Saturday 2 pm in the McGregor Observatory Library, presented by Paul Cicchetti. An introduction to the different methods used for observing our daytime star, along with how to recognize the unique characteristics of the sun.

Introduction to Collimation

Saturday 2 pm in the McGregor Observatory Library, presented by Dick Parker. Collimation, the process of aligning the optics of a telescope, is critical to ensuring that your instrument provides the best images it is capable of. Proper collimation is not nearly as difficult as you might think. This hands-on workshop will discuss the basic steps beginners can take to ensure that the optics of their telescope are properly aligned and adjusted.

If you are interested in learning how to collimate the optics of your telescope, set your telescope up in the observing field immediately to the South of the McGregor Observatory **before 2 pm** on Saturday. Then, attend the brief classroom lecture on basic collimation in the McGregor Observatory at **2 pm**.

After this brief lecture, Dick Parker will escort the group, weather permitting, out to the observing field to inspect each participant's telescope and demonstrate the collimation process.

AAVSO: Getting started in Visual Variable Star Observing

Saturday 3 pm in the McGregor Observatory Library. Presented by Richard Kinne. This talk will introduce the subject of visually observing variable stars. It will present a small bit of the history behind variable star observations, give an overview of the types of variable stars, and show how to find and make estimates of these star's brightness using both binoculars and small telescopes. A list of good starting stars will be given, as well as further reading recommendations.

ADVANCED LEVEL ASTRONOMY

Restoration of a Classic 9½-inch Refractor

Saturday 1 pm in the Flanders Pavilion. Presented by Alan Sliski. Al will give a talk about the restoration of a classic 9½ inch refractor, made by the Warner and Swasey company in 1916. The history of the company, the instrument and details of its construction and the processes used to clean and refinish the many parts and materials that make up the instrument. A description of the design of new optics and a replacement lens cell will also be presented.

Protecting those Expensive Large Optical Coatings

Saturday, 4 pm in the Flanders Pavilion. Presented by Mario Motta. OK, you now have that large telescope of your dreams, but how will you insure that the heart of your telescope, the optics, will stay as clean and reflective as it was when you got your first view through it? Recoating a large optical mirror is a formidable, expensive, and risky task, and thus it is imperative that you protect it well. Dust does more than scatter light degrading contrast, it acts as a nidus for acidic moisture to collect on the mirror and strip your coatings. Repeated moisture, especially in this age of acid rain, wrecks coatings. In this talk Mario describes a method of building a CO2 snow gun to clean dust safely from optics, a system of dehumidifying and protecting optics from the ravages of dew in stored optics, and the importance of keeping optics clean and moisture free.

FRIDAY EVENING INFORMAL TALKS

Friday evening at 8:30 pm Carl Malikowski, of the Springfield Telescope Makers, will conduct the informal talks in the Flanders Pavilion. 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 35-mm slide projector, overhead projector, VCR, and a digital projector will be available for your use. Note that if you plan to use the digital projector, you must bring your own laptop.

SATURDAY SWAP TABLES

7 am to noon on Saturday. The Swap Tables (located at the northeast edge of the main camping/parking area) are provided to give amateurs an opportunity to trade, buy or sell their surplus astronomical and telescope related items. (**Important: see Swap Table Policy, Page 6**)

SATURDAY KEYNOTE PROGRAM

7 pm Saturday in the hillside amphitheater (In case of inclement weather, the program will be held inside the pavilion). Bob Morse, of the Springfield Telescope Makers, will be master of ceremonies.

- Greetings, announcements, children's raffle and raffle drawing
- Stellafane Shadowgram: Allen Tinker
- Presentation of Telescope Competition Awards
- Stellafane Keynote Talk: The Meteorite Men

OTHER PROGRAMS SUITABLE FOR ALL

Observing with the Hartness Turret Telescope

8:30 pm Thursday at the Hartness House, weather permitting.

Solar Observing

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.

Meteorite Show and Tell

Friday 4 pm to 5 pm at McGregor Observatory Library. Presented by Wayne Zuhl and Peter Sherff. A variety of meteorites, tektites, and other space-related objects will be displayed and explained.

The Porter/Hartness Museum of Amateur Telescope Making

Open Friday from 5 pm to 8 pm and Sunday from 9 am to noon. The Porter/Hartness Museum of Amateur Telescope Making is located in the underground rooms at the Hartness House Inn. Admission is free. Follow the signs in town to the Hartness House at 30 Orchard Street of VT-143. Many of the items on display are by or about Russell W. Porter, including the Springfield and Garden telescopes. His artwork traces his arctic exploration years to his work on the 200" Palomar telescope, culminating in his famous cutaway drawings. Other items of interest include early telescopes and mirror making parts. The Hartness turret telescope, with its 10" Brashear objective, may also be inspected.

Meteorite Men Cocktail Meet and Greet

Friday 5:30 pm at the Hartness House in Springfield. Meet our keynote speakers and television stars The Meteorite Men at this cocktail hour/meet and greet event, from 5:30 pm to 8 pm. There is an additional \$20 per person fee for this event. Hors D'oeuvres will be served and there will be a cash bar at the Telescope Tavern. Soft drinks will also be available. Geoff Notkin and Steve Arnold will have meteorites for sale, including a special item commemorating their visit to Stellafane. There will also be a panel discussion to be held in the last hour of the event. Wayne Zuhl of the Springfield Telescope makers will be the host/emcee for the evening.

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Undaunted—the Forgotten Giants of Allegheny Observatory

Film, Friday 7 pm in the Flanders Pavilion. The Allegheny Observatory is often regarded as the birthplace of astrophysics. It laid the foundation for climate and solar energy research, major discoveries in planetary science, AND the discovery and study of planets outside our solar system. Samuel Pierpont Langley made the first truly scientific studies of the principles of flight and published a textbook on the subject in 1891. He was also the first person to fly a documented heavier-than-air powered flying machine, in 1896. Starting with only a grade school education, John Brashear taught himself physics and astronomy to become one of the world's foremost scientific instrument makers. He made the highly precise optical apparatus for the Michelson Morley experiment, which revolutionized all of physics and provided crucial evidence to support Einstein's theory of special relativity. (Brashear also made the objective of the Hartness Turret Telescope, see above). UNDAUNTED is the story of ingenious minds in a little known place, whose remarkable stories of tenacity and determination in furthering science and technology have nearly been forgotten. Features interviews with Dr. Neil deGrasse Tyson of the American Museum of Natural History, Dr. Tom Crouch of the Smithsonian National Air and Space Museum, Dr. George Gatewood of the University of Pittsburgh, and Dr. William Fickinger of Case Western Reserve University. Written by Dan Handley. (Information adapted from the Internet Movie Database).

Meteorite Men Book Signing

Saturday 2 pm in the field near the food tent. Book signing with Geoff Notkin and Steve Arnold. Geoff will have copies of his books for sale and he and Steve will be available for signings.

ACTIVITIES FOR CHILDREN

Workshops (ages 5-12)

There will be four 1-hour astronomy workshops for children held in the McGregor Observatory Library during the 2012 Stellafane Convention, and each session has a different activity. These astronomy workshops have been held at the Stellafane convention since 1995. Led by Dr. Kristine Larsen, of Central Connecticut State University and member of the Springfield Telescope Makers, each of the four 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 25 children on a first-come basis. Each workshop has a different astronomical theme:

- **Friday 11 am - Noon: COMETS**
- **Friday 3-4 pm: CRATERS**
- **Saturday 11 am - Noon: THE SUN**
- **Saturday 4 - 5 pm: NORTHERN LIGHTS**

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 Pink 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 Pink 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 home made.** You may not set up your telescope in a designated parking area. The darkest conditions are available near the Pink 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 Pink 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 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 Pink Clubhouse and at the Bunkhouse. We thank you for your cooperation.

Food Service

The main food service tent is located just to the south of the T-shirt table. 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 using our new 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 (See Stellafane East Site Map). It makes one stop on Breezy Hill near the Clubhouse.

The Stellafane Raffle

The famous Stellafane Raffle offers spectacular donated prizes to lucky winners, typically including thousands of dollars worth of optical gear and many desirable astronomy and telescope-making books. 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 at the T-shirt table 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!

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.

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:

- 1. Only surplus astronomical, telescope and telescope making related items may be sold.**
- 2. Each person will be allowed 16 square feet of table or ground space.**
- 3. Items which have the appearance of being specifically purchased or manufactured for sale at the Swap Tables may not be sold.**
- 4. All sales must take place within the designated Swap Table area only between 7 am and 5 pm, 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 (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.

Generators & 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!

Please Support the Flanders Pavilion

Following the tradition set down by our founder, Russell W. Porter, the Springfield Telescope Makers continually work to improve the Stellafane convention. Our new Flanders Pavilion has been a big hit! However, the Springfield Telescope Makers need your help to raise the funds necessary to pay off the loan that was needed to complete the Pavilion. If you are interested in donating to this project you may do so by mail or online with our Donation Form at stellafane.org/help/donate-form.html. Thanks!

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 and McGregor 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. Thanks!

Lost and Found

The lost and found is located at the t-shirt table at the Bunkhouse.

Stellafane Web Site Wants Your Photos!

The Stellafane web site (<http://Stellafane.org>) will have many photos from this convention, as well as many of the presentations and the winners of the telescope competition available in the weeks following the event. We are always happy to accept photos of convention for publication on the web site. Additional information on telescope making, Stellafane history and past conventions is also available there.

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 Pink 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 if you wish.

Optical Competition

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

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 Pink Clubhouse from 8:30 am to 10 am or from 5 pm to 8 pm 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 inches optical diameter or less; the "large" category is for mirrors that are greater than 12 inches in diameter.

2012 Optical Judging Chairman: Rick Hunter

Mechanical Competition

Registration for the mechanical competition will be between 8 am and 9:30 am Saturday morning in the Pink Clubhouse. Keep in mind that if you have registered your instrument online, you must still check in at the Pink 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 and workable and functional instrument).

2012 Mechanical Judging Chairman: Chris Houghton

Last Year's competition winners

1ST PLACE OPTICAL 12" AND OVER: Francis J. O'Reilly, Brewster, NY Instrument: 12½" f/7 Newt-GEM

2ND PLACE OPTICAL 12" AND OVER; 2ND PLACE CRAFTSMANSHIP; 2ND PLACE MECHANICAL: Larry Shaper, Thetford Center, VT. Instrument: 14.5" f/4.2 Newt-Dob

1ST PLACE OPTICAL UNDER 12"; 3RD PLACE MECHANICAL: Cecilia Page, New Preston, CT. Instrument: 8" f/5.52 Newt-Dob (built exactly to Stellafane Dob plans)

2ND PLACE OPTICAL UNDER 12" (TIE): Gary H. Fick Newton Square, PA. Instrument: 10" f/5.4 Newt-Dob

2ND PLACE OPTICAL UNDER 12" (TIE): Michael Zarick, North Branford, CT. Instrument: 10" f/6.5 Newt-Dob

3RD PLACE OPTICAL UNDER 12": Mark J. Hatch, Belmont, MA. Instrument: 8" f/8 Newt-Dob

1ST PLACE CRAFTSMANSHIP; FIRST PLACE, MECHANICAL: Jeff P. Hutton, Alexandria, KY. Instrument: 16" f/4.3 Newt-Dob

3RD PLACE CRAFTSMANSHIP: John M. Compton, Peña Blanca, NM. Instrument: 8" f/6 Newt-Dob with unique tube clamp.

1ST PLACE JUNIOR MECHANICAL: Dominic S. Fucile, Waquoit, MA. Instrument: 10.2" F/4.4 Newt-Dob

2ND PLACE JUNIOR MECHANICAL: Sydney H. Mabry, Glenn Allen, VA. Instrument: 8" f/6 Newt-Dob

3RD PLACE JUNIOR MECHANICAL (TIE): Lillian J. Fucile, Waquoit, MA. Instrument: 4¼" Newt

3RD PLACE JUNIOR MECHANICAL (TIE): Johnny Colt, Williston, VT. Instrument: Plywood Tank Binocular Mount

ANTIQUÉ RESTORATION AWARD: David M. Groski, Hockessin, DE. Instrument: 3" f/15 Antique Alt/Az Refractor

INNOVATIVE COMPONENT AWARD: Gerard W. Trahan, Rehoboth, MA Instrument: Remote Focuser using RC Servos

SPECIAL AWARD: Alex J. Ferreira, Ridgefield, CT. Instrument: Pneumatic Scope Drive Prototype