

★ ABOVE THE FOG

• BULLETIN OF THE SAN FRANCISCO AMATEUR ASTRONOMERS •

VOL. 52, No. 4 – APRIL 2004

APRIL 21, 2004 – GENERAL MEETING

7:00 PM DOORS OPEN
7:30 PM ANNOUNCEMENTS
8:00 PM SPEAKER

AMATEUR ASTRONOMY GOES PROFESSIONAL

CHUCK PULLEN, M.Sc.



The advent of affordable CCD cameras for the amateur-sized telescope has revolutionized the way astronomical research can be performed, even from non-traditional, light-polluted observing locations. Amateur-professional partnerships offer a way for the amateur to work with professional astronomers, helping to answer fundamental questions of stellar astrophysics, solar system dynamics, and even searching for extra-solar planets. This presentation will discuss some on-going partnerships, and suggest ways for interested amateurs to become involved with actual astronomy research. Additionally, I will be discussing observation of variable stars and will provide charts from AAVSO to assist in the selection of comparison stars.

Chuck Pullen has a Masters of Science degree in Astronomy from Swinburne University of Technology, Victoria, Australia. He is on the governing Council of the American Association of Variable Star Observers (AAVSO). He currently teaches astronomy at Consumes River College and Sacramento City College. His research interests include time variation in Blazars (Active Galactic Nuclei), categorizing new eclipsing binaries, photometric search for new faint Cepheid binary systems, and Gamma Ray Burster follow up observations. He currently has co-authored 15 papers published or submitted for publishing in professional journals such as The Astrophysics Journal, and Astronomy & Astrophysics. He operates the Coyote Hill Observatory in rural Sacramento County, California.

2003 CLUB OFFICERS & CONTACTS

President	Michael Portuesi	(415) 550-9366
Vice President	Nancy Cox	(415) 269-8259
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Treasurer	Lorrie Boen	
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	Steve Bryson	
	Danny Christian	
	Cheryl Schudel	
	Ken Frank	
	Slava Evanikoff	
	Randy Taylor	
Alt. Board Members	John Dillon	
	Phil Estrin	
Webmaster	Joe Amato	

MEMBERSHIP DUES

The mailing label on the back of this issue shows the month and year through which your membership was paid. If the date has passed, your membership has expired. Members may receive no more than one bulletin after the expiration of membership.

Please renew soon if your membership is expiring.

ONLINE SERVICES FOR SFAA MEMBERS



The SFAA's Secretary's Web Site helps keep SFAA information together and accessible to members. The site URL is <http://www.whiteoaks.com/sfaa/>. At this site you can find such information as minutes from meetings of the Board of Directors, the SFAA official by-laws, and other information. SFAA also offers email lists to supplement the bulletin board offered at the SFAA's official web site. At present there are two email lists – an unmoderated list for use primarily for business and discussion by the Board of Directors (but open to all members), and a moderated announcement list for all SFAA members. If you would like to be added to the SFAA-announce email list, please contact the secretary (<mailto:secretary@sfaa-astronomy.org>) and let him know. You can also sign up for the list yourself at this URL: <http://www.whiteoaks.com/mailman/listinfo/sfaa-announce>

Above the Fog is the official bulletin of the San Francisco Amateur Astronomers. It is the forum in which club members may share their experiences, ideas, and observations. We encourage you to participate by submitting your articles, announcements, letters, photos and drawings. We would also like to hear from our new members. Tell us about yourself – what you have done in the past and what other clubs you have joined. The deadline for the next issue is the seventh day of the month. Send your articles to Phil Estrin at pestrin@dir.ca.gov.

CLUB TELESCOPES

The SFAA owns 4 club loaner telescopes, Dobsonian/Newtownian reflectors: 6" f/10, 8" f/7, and 10" f/8 and a Starblast. They are available for extended periods (30 days or more) to SFAA members. These are generally very fine scopes, easy to use and well-suited for deep sky, planets, and star parties. The loaner custodians are Pete Goldie & Sarah Szczechowicz, located in San Francisco. If you are interested in borrowing a scope, or if you have items you can donate for the loaner program (eyepieces, star maps/books, collimator, etc.) please contact them via email (<mailto:pg@lbin.com>) or phone (415-206-9867). Email communication is preferred and strongly recommended for a quick and accurate reply.



CLUB ASTRONOMY VIDEOS

The SFAA owns a series of astronomy videotapes featuring Alex Filippenko, a world-renowned professor of astronomy at UC Berkeley. The videotapes provide an introduction to astronomy and cover topics such as the Solar System, the lifecycles of stars, the nature of galaxies, and the birth of the Universe. The SFAA loans the tapes free to all members. If you are interested in viewing these tapes, you may check them out at any of the SFAA General Meetings. These tapes were kindly donated to the SFAA by Bert Katzung. Our librarian is Dan Christian.



For information on the course tapes themselves:

<http://www.teach12.com/ttc/assets/coursedescriptions/180.asp>

FROM YOUR PRESIDENT

Michael Portuesi

The penguins who live at the South Pole have devised a clever strategy for dealing with the winter cold. They gather together in a giant huddle. Some brave souls stand at the edge of the huddle to block the wind. Eventually, other penguins come out from the center to take their place, sharing the work of wind-blocker amongst the flock.

As your President, I have enjoyed my time as a "wind-blocker" for the group. It has been rewarding, and in some ways a valuable personal growth experience for me. But now it's time for me to go back to the middle of the huddle, and for someone else to step out to the edge. This year will be the last for me as President of SFAA. In addition, we will need, at minimum, a new Treasurer and a new Secretary; both those positions will be also be vacated at the end of this year.

I am making this announcement well in advance, to encourage those of you who value SFAA to step forward and help guide the club. There is plenty of opportunity to attend a few Board meetings (all members are invited) to learn what goes into running SFAA. It is true there are a list of minimum tasks that must be done for each position. But beyond the responsibilities, there is a huge opportunity to do whatever *you* want to make SFAA a better, fun club – which is the most rewarding part of the position.

I will not leave SFAA. I plan to help and advise the next group of leaders as the immediate past-President. Nobody will step into their new position empty-handed, or without the support they need.

Perhaps you may be new to the club, and are concerned that being so new somehow does not qualify you to lead the club. I felt that when I originally ran for SFAA Board, and I felt that when I considered running for President. But I can assure you that nothing could be further from the truth. New people bring new ideas, and new ideas keep a club vibrant and interesting. Plus, in my book, a willingness to help overwhelmingly trumps "seniority" concerns every time.

Please consider getting involved with SFAA. It's a great way to meet lots of people who share your interest, both within the group and with other astronomical clubs in the Bay Area. And it's a great way to share your interest in astronomy with a lot of other people.

2003 SFAA HONORS AWARD WINNERS

HERE ARE THE RECIPIENTS OF THE AWARDS GIVEN BY SFAA TO HONOR
IT'S MEMBERS AT THE JANUARY AWARDS DINNER:

KEN FRANK	SERVICE AWARD
MORRIS JONES	OBSERVER OF THE YEAR AWARD
MORRIS JONES	HERMAN FAST AWARD

!!! CONGRATULATIONS TO THE AWARD WINNERS !!!



IMPORTANT UPCOMING DATES

BOARD MEETING
APRIL 14 – MAY 12 – JUNE 9
7:00 P.M.

Western Addition Library
Scott & Geary Streets, San Francisco

SFAA GENERAL MEETING & LECTURE
APRIL 21 – MAY 19 – JUNE 16
7:00 P.M. DOORS OPEN – 7:30 P.M.
ANNOUNCEMENTS
8:00 P.M. SPEAKER

Randall Museum, 199 Museum Way
(near 14th Street and Roosevelt)

CITY STAR PARTY
APRIL 24 – 6:30 P.M.
MAY 22 – 7:00 P.M.

OPENING NIGHT BACK AT THE RANDALL

Too bad if you didn't attend the inaugural meeting at our new/old venue. Did you know we had a telescope making workshop there years ago? In the foyer on loan from NASA was a simulated Mars surface with a working model of the Rover.

You missed a great lecture in the new theatre by John Dillon. You can tell he's passionate about his subject of Ancient Astronomy. I left wanting more. John is leading a group to view the Venus transit by the way.

The many choices of polos and hooded sweatshirts were available to inspect and purchase with the Clubs logo.

We held a raffle, thanks to the most generous donations from Scope City's Sam, Maria and George. They gave away lots of good astro stuff, from beautiful laminated posters of M31 to planetaria software.



Energetic Sam, above right, is shown with Maria reading off the winning ticket.



CHABOT SPACE & SCIENCE CENTER DISTINGUISHED LECTURER SERIES

POSTED BY
DENNI MEDLOCK

APRIL 17, 2004 - 6:00 PM

World Rainforest Founder David Seaborg will be speaking about, "Global Environmental Issues: Problems, Consequences & Solutions." Severe environmental issues face our generation today. David Seaborg will speak about those issues and the actions we can take to help the future generations of our fragile planet.

MAY 8, 2004 - 6:00 PM

Where does Space end? Why do bones become brittle in space? Dr. Sten Odenwald, Mr. "Ask an Astronomy" himself, will be on hand to answer those perplexing questions about what's new in astronomy in "Back to the Astronomy Café." Book signing follows lecture.

THE OBSERVER'S TOOLKIT

MICHAEL PORTUESI

So, you've bought your telescope, and...now what? You might have taken it out for a few observing sessions, and found that getting going with your new toy was a bit more difficult than you had expected.

Like so many other fields of endeavor, observing is much easier when you have the right set of tools. Here, we will cover the essentials that every observer should have in their toolkit, plus a few tools that are specific to the type of telescope you might own.

Red Flashlight



Observing is done in the dark. You need some sort of light so you can see eyepieces, your telescope controls, and whatever observing notes you might be using. Unfortunately, a standard flashlight emits a blinding white light, which is great for lighting up everything in sight, but also good at blinding you and ruining your dark adaptation. Also, it's very bad form to use a white flashlight at a star party for this reason.

Pictured here are two red flashlights. Telescope stores offer them, or you can make your own. The one on the left is a commercial red LED flashlight. It has a dial to adjust brightness ? this is very important. Normally, you want to use just enough light to see your eyepiece, chart or whatever, but not any more. At the end of the night, when you pack up, or if you're walking around between telescopes at a star party, you want more light!

The light on the right is a regular Mag-Lite flashlight, with a red plastic filter on the lens. Mag-Lite actually sells a little kit that includes a red plastic filter. But I prefer the LED flashlights because they are brighter, and don't run down the batteries as much as a Mag-Lite. Plus, the Mag-Lite seems to burn out its light bulb rather often.

If you get a red LED flashlight, don't get a model with a white light built in - you don't need it. If it's there, you're likely to change it to white beam by accident ? usually in the middle of a star party when you will blind yourself and everyone else nearby. Instead, get a separate white flashlight that you can use when the circumstances are appropriate (usually when you and everyone else are packing up from a long night's observing!).

Finally, it's helpful if the flashlight has a strap so you can put it around your neck. That makes it easy to find the flashlight in the dark!

Red Dot or Telrad Finder



A "red dot", or Telrad finder, is the best help you will get for finding objects in the sky. Even if you have a GOTO scope, you will want one of these because it makes aligning the telescope to its guide stars so much easier.

These finders (also called "unit power" or "reflex finders") simply project a red ring or dot on the sky when you look through them.

Basically, they act as a "gunsight" to allow you to accurately aim your scope. Wherever the bullseye is pointing, your telescope is too.

The Orion red dot finder is pictured on the left; several other manufacturers make similar models. I think the best one is made by StellarVue. The Telrad (pictured on the right) is the original finder from which all others descended. It is kind of bulky next to some of the newer models, but it is quite light and has virtues of its own. For example, it projects nice bullseye rings rather than a single dot, and it suffers less from parallax issues when you move your eye around while looking through it.

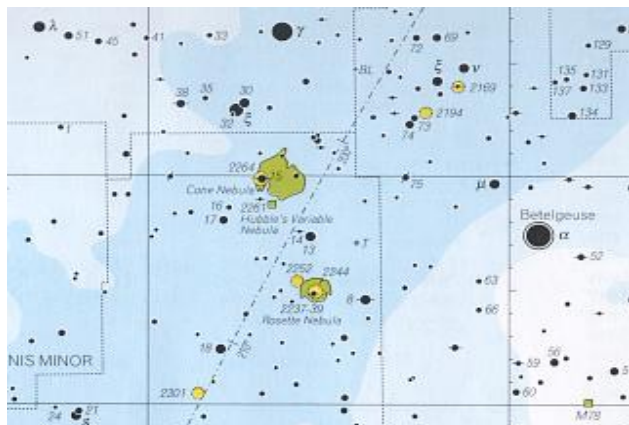
Planisphere



A Planisphere is a compact, rotating star map. You dial up the current date and time, and it shows you a map of which constellations and bright stars are up. This is a great way to learn the constellations, and it's essential if you have a GOTO scope such as the Meade ETX or Celestron Nexstar. The telescope will expect you to center it on specific stars in order to calibrate its GOTO feature ? and it's very helpful to know where in the sky the calibration stars are.

The very best planisphere is called *The Night Sky* by David Chandler (pictured here). This one is unique in that it shows you a northern horizon-facing view on the front, and a southern-facing view on the back. This reduces the distortion that planispheres inevitably exhibit, making it easier to trace constellations in the sky. You can purchase it online from Sky and Telescope. Make sure to get the model that's specific for the latitude where you live.

Basic Star Atlas



The planisphere is useful for getting your bearings, but eventually you will need a more detailed star map to show you where all the interesting things are. The best basic star atlas currently available is the *Cambridge Star Atlas*, by Wil Tirion and published by Cambridge University Press (a tiny sample is shown here).

The *Cambridge Star Atlas* has a series of 20 charts that cover the entire sky, displaying stars down to magnitude 6.5 (all stars that can be seen with the naked eye). It plots a great deal of deep-sky objects, and each map has an accompanying page listing the objects and providing information on them. It's beautiful, compact, and well-laid out. This atlas should be sufficient to get you through the bulk of the Messier Objects, and then some.

There are more sophisticated atlases you can buy, and also star charting software. But this is a good place for beginners to start, because it shows you what you need without overwhelming you with detail. Even when you become an experienced observer, you will still find a bright star atlas like this one very useful on a regular basis.

Beginner's Observer's Guide

To accompany your atlas, it's good to have a book that explains the basics of observing - how to find objects in the sky, along with suggestions for observing projects to get you going. The beginner's guides generally start you with things that are easy to see ? which is good because they are also among the prettiest!

Here are some recommendations:

- *Turn Left at Orion: A Hundred Night Sky Objects to See in a Small Telescope ? and How to Find Them* by Guy Consolmagno and Dan M. Davis
- *Star-Hopping: Your Visa to Viewing the Universe* by Robert A. Garfinkle
- *Star-Hopping for Backyard Astronomers* by Alan M. MacRobert, Fred Schaaf
- *The Universe from your Backyard: A Guide to Deep Sky Objects from ASTRONOMY Magazine* by David J. Eicher

Bubble Level



If your telescope has an equatorial mount, or if you have a GOTO telescope, this is a handy item to have. It makes it easy to level your scope. For GOTO scopes, this is essential. A GOTO scope wants you to level the tube and point it towards north before it starts locating its alignment stars. The more level and the better pointed you are towards north, the better it will guess as to where the alignment stars are. This translates into easier setup of your scope.

You can find these in any hardware store, for about \$3.

Collimation Tools



If you have a Newtonian reflector telescope (and this includes Dobsonians), you need to collimate (align) the optics, usually every observing session. Collimation is very important, and will dramatically improve the quality of the images you see through your telescope.

Pictured here are a sight tube (left), and a Cheshire eyepiece (right). These go into the focuser, in place of a normal eyepiece. The sight tube is used for aligning the secondary (diagonal) mirror. Once the secondary is aligned, you use the Cheshire to align the primary mirror. You can buy "combo" units that combine both features into one special eyepiece, but they're not as good as separate tools. The separate tools are less confusing, and more accurate.

You can spend lots of money on fancy collimation tools, such as laser collimators and the like. I own a laser collimator myself. But these two tools are all you really need for collimation.

The best collimation tools are made by Tectron Telescopes. You can do a web search to find an FAQ for collimating your Newtonian telescope.

Get your hands on some of these items, and see what a difference they make in the quality of your observing sessions. Armed with these tools, you should be set to take on the entire Universe!

**2004 MT TAM ASTRONOMY PROGRAMS
TINKA ROSS**

MT TAM ENTHUSIASTS

**BELOW IS A LISTING OF OUR PROGRAMS FOR THE 2004 SEASON
LOOK FORWARD TO SEEING YOU ON THE MOUNTAIN!**

A FEW CHANGES THIS YEAR

- 1) Our astronomy programs will be on the Saturdays near the First Quarter Moons (not new moons)
- 2) The Madrone Picnic Area (next to the Mt Theater) is reserved 1 1/2 hours before each program for informal gathering. Bring your picnic supper and meet the speakers before the talk.
- 3) We have added two storytelling evenings - suitable for young and old alike. No telescope viewing with these programs



Plenty of time to get your raffle tickets for the trip to Egypt to view the Transit of Venus this coming June. Purchase at our March-May programs, check out our website at <http://www.mttam.net/> or send money to Mt Tam Astronomy Programs, c/o Tinka Ross, 89 Dominican Drive, San Rafael, CA 94901. \$5 per ticket or 5 tickets for \$20. Proceeds will benefit the Mt Tam Astronomy Programs and the MTIA Gravity Barn Project.

2004 MT TAM ASTRONOMY PROGRAMS

**APRIL 24 - 8:30PM
DR. GREG MADIJSKI
STANFORD LINEAR
ACCELERATOR CENTER**

"ASTRONOMY FROM SPACE"

New vistas from observations from above the Earth's atmosphere afford us a better understanding of the cosmos.

**MAY 22 - 8:30PM
DR. GORDON SQUIRES
SPITZER SCIENCE CENTER
CAL TECH**

**"SPITZER - FIRST RESULTS FROM THE LAST OF THE GREAT
OBSERVATORIES"**

The Spitzer Space Telescope, launched in August 2003, is giving us a new look at our universe in the infrared.

**JUNE 26 - 8:30PM
DR. JEFF MOORE
NASA-AMES RESEARCH CENTER**

"FORTHCOMING EXPLORATION OF THE PLUTO SYSTEM"

The distant planet Pluto and the Kuiper Belt Objects will be the last members of our Solar System to be visited by spacecraft.

**JULY 24 - 8:30PM
DR. SAUL PERMUTTER,
LAWRENCE BERKELEY LABS**

"SUPERNOVAE, DARK ENERGY AND THE ACCELERATING UNIVERSE"

Astronomers use exploding stars to investigate one of the biggest scientific mysteries of our day.

**AUGUST 21 - 8:00PM
DR. PHILIP PLAIT
SONOMA STATE UNIVERSITY**

"BAD ASTRONOMY: FACING DOWN THE 'FACE' ON MARS"

The recent spate of nonsense circulating the web involving the Red Planet will be debunked with science, simple logic and a dose of humor.

SEPTEMBER 18 - 7:30PM
DR. PASCAL LEE
MARS INSTITUTE/NASA-AMES

"HUMANS ON MARS"
Research in the Antarctic is being used for feasibility studies preparing the way for humans to explore the planet Mars.

OCTOBER 16 - 7:30PM
DR. EMMA BAKES
SETI INSTITUTE/NASA-AMES

"EXPLORING THE MEANING OF LIFE"
There is evidence for the universal formation of life throughout the cosmos.

2004 MT TAM STORYTELLING

JULY 10 - 7:30PM-
DOREEN DEVORAH
DAVID PONKEY

Doreen Devorah
"ANDREW P. HILL AND THE BEGINNING OF OUR STATE PARK SYSTEM"
David Ponkey
"THE LABOURS OF HERCULES: A STORY WRITTEN IN THE STARS"

OCTOBER 23 - 5:00PM
MARY ELLEN HILL

"WE ARE THE STARS THAT SING: THE STORY OF THE UNIVERSE"

2004 SHINGLETOWN STAR PARTY

NIGHTS OF JUNE 16 - 20, 2004 . PARTY CLOSES JUNE 21, 2004

SSP 2004 REGISTRATION NOW OPEN

This is the SSP's third year. It offers some of California's darkest skies and convenient easy-highway access. The star party is held on the runway of a closed airport, so there's no dirt or tumbleweeds on the setup field. This year's SSP is adding a shower truck and ice truck to its list of amenities. Just a few miles away is the resort community of Shingletown which provides full services. Beautiful Mount Lassen National Volcanic Park is 17 miles up the mountain.



Registration this year is limited to 300 attendees.

Find SSP 2004 at <http://www.shingletownstarparty.org/>



City Star Party San Francisco 2004

Join the San Francisco Amateur Astronomers (SFAA) and the National Park Service in sharing the wonders of the night sky in San Francisco.

Ask about your favorite constellation or astronomical phenomenon.

Telescopes will be provided, or you may bring your own.

The San Francisco Amateur Astronomers will co-sponsor the City Star Party in the winter and fall months, January, February, March, October, November and December.

The National Park Service will sponsor the City Star Party in the spring and summer-April, May, June, July, August and September.

Saturday	April 24	6:30 p.m.
Saturday	May 22	7:00 p.m.
Saturday	June 12	7:30 p.m.
Saturday	July 10	7:30 p.m.
Saturday	August 7	7:00 p.m.
Saturday	September 18	6:00 p.m.
Saturday	October 23	6:15 p.m.
Saturday	November 20	5:00 p.m.
Saturday	December 18	5:00 p.m.

The star parties will be held in the parking lot next to the USS *San Francisco* Memorial at Lands End on El Camino del Mar, just north of 48th and Pt. Lobos avenues, off of Geary Blvd.

For more information about the program and weather conditions for the winter and fall events, please call the SFAA hotline at (415) 289-6636

Or visit the SFAA website at www.sfaa-astronomy.org.

For more information about the spring and summer programs, call the National Park Service at (415) 239-2366 or visit their website at www.nps.gov/goga/parknews/events.

SAN JOSE ASTRONOMICAL ASSOCIATION
AUCTION
APRIL 4, 2004 - 12:00 NOON
HOAGIE PARK
NO ENTRY FEE

Founded in September 1952, the San Francisco Amateur Astronomers (SFAA) is an association of people who share a common interest in astronomy and other related sciences. Our membership consists of people from all walks of life, educational backgrounds and ages. Many SFAA members own their own telescopes; some have been made by hand in local telescope-making classes and vary in size from 6 to 25 inches.

Treasurer, SFAA, 765 Geary St., #302, San Francisco CA 94109
make checks payable to **San Francisco Amateur Astronomers** and mail to:

- \$10 enclosed, youth/student membership
- \$25 enclosed, individual membership
- \$30 enclosed, family or foreign membership
- \$40 enclosed, institutional membership
- \$75 enclosed, supporting membership

Select one category:

Name: _____ Telephone: _____

Address: _____

Email address: _____

San Francisco Amateur Astronomers Membership Application

San Francisco Amateur Astronomers
P.O. Box 15097
San Francisco, CA 94115



Information Hotline: (415) 289-6636

Web Page: www.sfaa-astronomy.org

Sharing the Wonders of the Universe

Has your membership expired? Your mailing label includes the month and year through which your membership is paid. If it is past, your membership has expired and this may be your last issue.