

THE FLINT RIVER OBSERVER

Newsletter of the FLINT RIVER ASTRONOMY
CLUB, an Astronomical League affiliate

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Officers: President, **Bill Warren:** (770)229-6108, warren7804@bellsouth.net; Vice President, **Larry Higgins;** Secretary-Treasurer, **Steve Bentley.**

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Please notify **Bill Warren** if you have a change of home address, telephone no. or e-mail address.

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Club Calendar. Thurs., Aug. 13: Solar observing (6 p.m. on the UGa-Griffin campus) followed by FRAC meeting (7:30 p.m. in the Stuckey Bldg.); **Fri.-Sat., Aug. 14-15:** Cox Field observings (at dark) and **Fri.-Sat., Aug. 21-22:** Cox Field observings (at dark).

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President's Message. WSB radio's popular consumer advocate, **Clark Howard,** has three goals for his listeners: to teach them how to spend wisely, save money, and avoid getting ripped off.

We in FRAC have those same goals regarding both the public and our fellow club members.

Regardless of your financial situation, astronomy is too expensive a hobby to be taken lightly. For example, if you were to buy a bottom-of-the-line telescope (we call them "el cheapos" or "stocking-stuffers") just because it's inexpensive, you should not realistically expect it to perform like a top-of-the-line 'scope. There's a reason why a \$79.95 Tasco 'scope sells for that price – and it's *not* because the merchant likes you so much that he's willing to take a financial loss so you can get a good telescope.

When people buy an el cheapo, they soon discover that it won't work properly. (There are several reasons why it won't work, all of which directly relate to its cost.) They can't sell it, because it's essentially a toy – and not a very good one, at that. Anyone who knows anything at all about telescopes is looking to buy something better and more dependable. So their el cheapo stocking-stuffer usually winds up as a permanent fixture in their attic or garage.

All telescopes (except the el cheapos) have good points and bad points, depending on what you need in a telescope. But when you're just starting out in astronomy, how do you know what you will need later on?

The answer is, of course, you don't know. So don't worry about later on, worry about *now*. Here are a few considerations:

*What can you afford? If you can't afford (or aren't sure) what you want or need, don't buy anything until you've decided what you need and saved enough money to buy it.

Until that time, you can use your own binoculars to observe, or use **Larry Higgins's** or my binocs at Cox Field. You can also use my 12.5-in. Dob as often and as long as you wish at Cox Field. I'll teach you how to use my 'scope and find things. Dobs are easy to use – that's why so many of us use them – and with a little guidance and practice you'll be finding things in the night sky like a seasoned veteran.

*Do you plan to observe with children? If so, you need a 'scope that's small enough for them to handle. (They won't be able to find things if the eyepiece is too high for them to see through it.)

If, however, the telescope will be for your use, you probably don't need a 4.5-in. Dob that's so low to the ground that, in order to observe objects near the horizon, you have to get down on your hands and knees to see through the eyepiece. (Of course, you could always build a platform to set the Dob on – but you might also consider buying a 6-in. Dob or larger, or a 4.5-in. reflector that rests on a tripod mount, as long as that mount is sturdy enough to remain steady when the wind blows your telescope or you turn the 'scope.)

*Do you want to take astrophotos? If so, you don't need a Dobsonian reflector, you need a 'scope with an equatorial mount and motor driven tracking system to accommodate long-exposure images. Dobs won't do that unless you add an expensive tracking mount.

*Most experienced observers agree that, if you simply want to observe and not take astrophotos, you should buy the largest aperture in your price range. Why? Because the larger the aperture, the more light it will gather and the larger and brighter images will be. You'll see more detail in large, bright images than you'll see in small, faint images. (That's not necessarily true of telescopes used for astrophotography or ccd imaging, because the camera collects and stores light.)

*Still... Do you really need a large telescope? Several of our members own big Dobs – but you need to remember that, if you're transporting your telescope to Cox Field or elsewhere, you need a 'scope that will fit in your car. And if you're planning to observe alone from time to time, you need a 'scope that's not too heavy for you to carry or put together without assistance.

*Beyond that, portability can be a negative factor in another way.

Most of us would agree that having a 20-in. Dob or a 12-in. Meade LX200 SCT would be *great!* – but the larger, heavier and more difficult the telescope is to load into your vehicle or set up in your backyard, the greater the temptation becomes to leave it unpacked

and stay home reading or watching tv when the weather conditions are less than perfect.

Alan Pryor regularly gambles on clear skies at Cox Field with his 20-in. Dob – but many observers wouldn't do that with such a large telescope. That's one of the many things that make Alan so special.

*Remember, too, that virtually all of our members who own large, expensive 'scopes and an exotic array of accessories started out with smaller 'scopes and a minimum of accessories, gradually adding equipment and stepping up in aperture over a number of years as they learned more about what they need. Maxxing out your Visa card trying to buy everything *right now* that you might conceivably want or need in the future is an even worse strategy than buying a stocking-stuffer, because the economic consequences of poor decision-making are more severe.

*There are two ways to find out more about telescopes than you presently know. In order to become a wise shopper who is capable of making intelligent, informed decisions about what you might need or want to buy, you should take both of these steps before buying anything.

First, come out to a Cox Field observing, see what our members are using, talk with them about telescopes and ask questions about what you don't understand. And second, read up on the subject of telescopes.

There are countless general and specialized astronomy books on the market that discuss the basic types of telescopes, mounts and equipment and list the strengths and weaknesses of each. **Smitty** has written such an article, "A Telescope With Your Name On It," and you can find it on our website under the Articles link. You can also use your computer to Google "Buying A Telescope" and follow the links on that subject.

Rome wasn't built in a day – and you won't learn everything you need to know about telescopes in one evening at Cox Field. It's a good place to start (especially if you're a good listener and ask questions) – but if you're going to invest your time and money in astronomy, you need to regard it as a long-term

investment and plan accordingly. To do otherwise would be a waste of your time *and* money.

Finally, I know you'll want to welcome our newest club member, **Cynthia Armstrong** of Sun City in Griffin, who joined FRAC at our July meeting. A smart, classy lady, Cynthia is new to astronomy and is doing it the right way, i.e., holding off buying a telescope or anything else until she knows more about what she'll need in order to get the most enjoyment out of her observing experiences.

-Bill Warren

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Last Month's Meeting/Activities. We had seven members at our June 26th Cox Field observing: **Larry Higgins, Alan & Vicky Pryor, Jessie & Ronny Dasher** – it was our first time meeting Jessie's wife, and we hope that Ronny was as impressed with us as we were with her – along with **Dwight Harness** and **yr. editor**. The sky teased us for awhile, wavering between maybe clearing up and maybe getting worse, before deciding on the latter course. But as Dwight pointed out, "Y'know, cloudy skies aren't so bad when you're with people you like."

A small but enthusiastic crowd of 12 FRACsters (including new member **Cynthia Armstrong**) attended our July meeting, which featured the last half of the Palomar dvd and a new monthly feature, "Constellation Mythology" by **Joel Simmons**.

Joel's first installment, "Hercules," was so good that even **Dan Pillatzki** paid attention throughout. (Dan's attention deficit disorder is so bad that, at his wedding, when the minister turned to him and asked, "Do you take this woman...?," Dan replied, "Did you see the play that **Chipper Jones** made at third base last night?")

Seriously, though, ya done good, Joel! We're looking forward to next month's installment.

Others attending the meeting besides Cynthia, Joel and Dan included **Larry Higgins, Dwight Harness, Betty & Steve Bentley, Charles Turner, Felix Luciano, Tom Moore, Carlos Flores, yr. editor** and Dan Pillatzki's guest, "**John Handcock**." We knew

that Dan was the prankster who added the final name to the sign-in sheet because there were only 12 people in the room and Hancock was misspelled.

We had a total of 13 at our July 17-18 Cox Field observings: **Larry Higgins** and **yr. editor** (both nights), and **Alan & Vicky Pryor, Charles Turner, Felix Luciano, Carlos Flores, Steve & Angela Knight** and **Bob McCarty** and his guest, **Mary Margaret Leinweber**.

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This 'n That. **Dwight Harness** is FRAC's new Observing Chairman. Like the Biblical **Moses**, Dwight at first harbored doubts as to his ability to function effectively in that role, but he'll do fine. Like **Steve Bentley**, who took over **Ga. Sky View '09** just 3 months before the event with no prior experience in running a star party, Dwight is a hard worker who solves problems through attention to detail. FRAC is very lucky to have guys like Steve and Dwight.

*The latest batch of Outreach Club certificates and pins finally came, and most of them were presented at the July meeting. Congratulations to **Charles Turner** and **Dwight Harness** for their Outreach pins, and to **Bill Warren** and **Larry Higgins** for their Stellar Outreach certificates.

Laura Harness's Outreach certificate and pin came in, too, but since she wasn't at the meeting to receive them, we sent them back. (Just kidding, Laura, we'll present them to you at the August meeting.)

Steve Bentley's Stellar Outreach certificate has been ordered, but when it will arrive is anybody's guess.

***Tom Danei's** new 20-in. truss-tube Dob won't be ready until Sept. – and that's good, too, because Tom changes telescopes the way kids swap baseball cards. The delay will give him time to start planning his next switch, probably to a 36-in. Starmaster.

*Feeling guilty about suggesting earlier that **Dan Pillatzki's** spelling skills might be deficient, **yr. editor** offers the following heartfelt retraction:

"Dan, I sincerely hope that my ill-advised attempt at humor at your expense does not lead anyone to believe that I think you don't spell good. That's for everyone to decide for themselves. All I know is, your wife **Kathy** tries hard to get you to bathe before coming to our meetings so you'll spell good."

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Upcoming Meetings/Activities. Every now and then in our lives, we're offered rare opportunities to step out of the ordinary, take a walk on the wild side and experience something the likes of which we've seldom if ever experienced before.

Two recent examples were our club trips to the Wetumpka (Ala.) Meteor Crater and the slightly smaller crater at "The Cove" near Woodbury, Ga.

At our August club meeting, another rare opportunity to venture beyond the norm presents itself. We're excited about the opportunity, and we think you will be, too.

From **6-7 p.m.** on our meeting night, **Thurs., Aug. 13th** on the UGa-Griffin campus, **Stephen Ramsden**, an Atlanta resident and air traffic controller at the world's busiest facility of its kind, the Atlanta Air Route Traffic Control Center, will use several telescopes equipped with different kinds of solar filters to show us what the **Sun really** looks like. The instruments, (filters) and mounts he'll be using include:

- *a 60mm Lunt (CaK) refractor;
- *a 60mm Lunt (air-tuned single etalon) refractor;
- *an 80mm Meade (white light) refractor;
- *a 90mm Coronado (double-stacked H-alpha) refractor;
- *a 100mm Lunt (air-tuned single etalon) refractor;
- *a Celestron 9.25-in. (white light) Schmidt-Cassegrain;
- *a Pinnacle Portable Pier/CGE mount with triple rails; and
- *a CGE mount with double rails.

At 7 p.m., Stephen will put up his equipment and we'll reconvene for Stephen's presentation, "A

History of Solar Observing," at our regular meeting site on the 2nd floor of the Stuckey Bldg.

Of course, the observing that afternoon will require the Sun's cooperation – but that's a given for *any* observing situation. If the sky is overcast on the afternoon of the 13th, we'll simply forgo the observing portion and have our meeting at 7:30 as usual.

The other problematic factor at work here involves the Sun itself.

As you already know if you've tried to observe the Sun lately – or if you've read **Robert Zimmerman's** article, "What's Wrong With the Sun?," in the Aug. issue of *Sky & Telescope* (pp. 26-29) – the Sun isn't doing much lately, at least, not much that we can see from here on Earth. But that's the Sun's fault, and not Stephen's.

On Aug. 13th, Stephen will do what we always do at FRAC public observings, i.e., the best he can under the conditions. Hopefully, the Sun will cooperate.

We hope you'll do everything in your power to attend our Aug. meeting, and to come early enough to see what the Sun is or isn't doing. If you've never watched solar prominences arcing slowly away from the Sun and then curving gracefully back into it, you owe it to yourself to see what it's like. As with Wetumpka or The Cove, it's an experience that will last a lifetime.

Meanwhile, you might want to go to Stephen's outreach website (see below) to see examples of his work.

Due to the collective influence of a Third-Quarter Moon on the night of Aug. 12th, our club meeting on Aug. 13th and Cox Field observings on Aug. 14th and 15th, we won't hold a special Cox Field Perseids Meteor Shower observing this year.

Our Cox Field observings will be on **Fri.-Sat., Aug. 14th-15th** and **Fri.-Sat., Aug. 21st-22nd**. We can watch residual Perseids on the 14th-15th.

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People You Should Know: Stephen Ramsden. Stephen says, "I am a 21-year veteran air traffic controller in Atlanta, Ga. In 2007, I started a small Solar Outreach Program in my local community called the Charlie Bates Solar Astronomy Project

(www.charliebates.org). It's a nonprofit organization that offers students and youths in the Atlanta area a chance to enjoy the mysteries of our nearest star. I use the latest in narrowband solar telescopes to bring solar activity in the Sun's photosphere to students and spark or reinforce their interest in science. This year the program has grown to reaching over 3,000 teens and adults in the Atlanta area.

Our group now offers "NASA Smart Skies Outreach," a program that uses mathematics in safely solving real-world air traffic control scenarios with middle- and high-school students.

Luckily, my job with the FAA allows me to take advantage of the Aviation and Space Education Outreach program in order to have my work schedule changed around so that I may visit as many groups as I can each month.

The National Air Traffic Controllers Association generously provides a never-ending supply of eclipse viewing glasses that I give away to every person in line so that they can look up and see the Sun in all its majestic glory while waiting in line for a view. These have become the favorite souvenir of my program. I am also a NASA/JPL Solar System Ambassador and have been able to use their resources to enhance my projects.

My visits to schools usually begin with a 10-min. lecture on the formation of our star and the resulting planets. Then I explain current theory on how hydrogen atoms fuse to become helium and release a certain wavelength of light that we can see through my white light, Calcium K line and H-alpha Solar Scopes. Most students have never seen a narrowband solar telescope, so I hear lots of "Wow!'s" each time I bring them out.

When the Sun cooperates with a 60,000+ mi. filament or prominence, or a large active region with sunspots, there is no replacing the looks on kids' faces as I explain the enormity of the features. I like to explain how the heat that they feel on their faces is a product of the features they are looking at. This kind of ties it all together as the big fireball of hot plasma that the Sun really is.

The kids are fascinated by the details of how it takes the light a little over 8 minutes to reach us from the Sun, and they always want to know what would

happen if it "blew up." Once, a little girl asked me, "How much water would it take to put out the Sun?" I couldn't answer that one.

The NASA/SOHO (Solar and Heliospheric Observatory) site and the Stereo A and B programs are great sources of excellent information for me to use in my outreach. It is so awesome to be able to pull up a current H-alpha or white light image of the Sun on my iPhone on site! I also use the SOHO site extensively in the classroom to show some of the wonderful movies of solar activity or animations explaining the nature of the Sun. It has been invaluable with my work with kids."

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The Sky in August. **Jupiter** (mag. -2.9) will dominate the night sky in August, rising shortly after sunset and glowing all night. On **Aug. 2nd** and **Aug. 4th**, Jupiter will look like it has five moons when the mag. 6 star **45 Capricorni** aligns itself with the four Galilean moons. On **Aug. 14th**, Jupiter will be larger and brighter than it's been in a decade. And from 9:59 p.m.-12:35 a.m. on **Aug. 26th-27th**, only one of the Galilean moons – **Callisto** – will be visible. (**Ganymede** and **Europa** will be in front of the planet, and **Io** will be behind it.)

On **Aug. 1st**, **Neptune** (mag. 7.8) will be 2° E of Jupiter, its small blue disk easy to distinguish from a star in a 4-in. telescope. Blue-green **Uranus** (mag. 5.8) will be up, too – *Sky & Tel* will tell you where (pp. 42-43) -- along with bright **Mercury** (mag. 0 or brighter, depending on when you observe it during the month) and **Saturn** (mag. 1.1), both of the latter low in the W sky for awhile after sunset.

Mars and **Venus** will be morning stars in August.

The **Perseids meteor shower** will peak during the pre-dawn hours of **July 13th**, sharing the sky with a 3rd-Quarter Moon.

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Prof. Stargazer Interview: Part II

(Editor's Note: Always eager to share his vast knowledge of the universe, theoretical physics and winning lottery ticket numbers for a small fee, the

profoundly brilliant astronomer, cosmologist and occasional pickpocket **Prof. Theophilus Stargazer** has once again consented to be interviewed by FRAC members. After identifying ourselves by giving him FRAC's secret handshake [i.e., palming him a \$20 bill], we looked around and began questioning him.)

Cynthia Armstrong: Frankly, Professor, we thought you'd be living somewhere nicer than this.

Prof. Stargazer, shrugging: Yes, I'm disappointed, too, Cynthia. These county jail cells aren't nearly as spacious, sanitary or comfortable as the ones in the state and federal prisons. But enough about me, let's talk about astronomy.

Joel Simmons: Okay, Professor, here's a question to get you started: *Why are the auroras located at the poles?*

Prof. Stargazer: Auroras are cold-natured, Joel. They aren't really comfortable sunbathing on balmy beaches in the Bahamas. Next question?

Carlos Flores: I read recently that **Vega** will be the Pole Star in 25,000 years, Professor. Why is that?

Prof. Stargazer: Vega's last name is Kowalski.

Betty Bentley: I'm sure there's a joke in there somewhere, Professor, and I'm trying to find it. But here's my question: *Where do the stars go during the daytime?*

Prof. Stargazer: At lunchtime, you can find them at Sardi's Restaurant in Hollywood. (Pause.)

No, I was just kidding, Betty.

Actually, the stars are out during the daytime, but you can't see them because they're wearing sunglasses.

You there – yes, *You*, the one with the pencil dangling from his nose. Do you have a question?

Tom Moore: What is *escape velocity*, Professor?

Prof. Stargazer: It's the speed you have to attain to escape **Dwight Harness** when he's feeling talkative.

Steve Bentley: That's not a pencil dangling from Tom's nose, Professor. Trust me, it's not.

Anyway, my question is, *What is a light-year?*

Prof. Stargazer: Didn't I just answer that? A light-year is what time feels like when you're having a light conversation with Dwight.

Charles Turner: So are you saying that escape velocity and a light-year are the same thing?

Prof. Stargazer: They are when you're trying to get away from Dwight.

Have we beaten this subject to death, or what? Can we talk about something else?

Dan Pillatzki: Okay, Professor. What are the *equinoxes*?

Prof. Stargazer: Hey, don't you guys know anything about anything? I thought this was an astronomy club!

The term *equine* refers to "horses," and *oxes* are "more than one ox." An equinox is what you get when you cross a horse with an ox.

(Pause.)

Well, I see by the old clock on the wall that it's stopped. But visiting hour is almost over, so I have time for two more questions. Does anyone have any questions about the **Moon**?

Felix Luciano: I do, Professor: Why does the Moon always show us the same face as it orbits the Earth?

Prof. Stargazer: Curiosity, Felix. Or maybe *fear*. It wants to see what we're doing.

Larry Higgins: We know that, as the Moon rotates on its axis, it wobbles slightly, showing us about 59% of its surface in the course of a lunar year. But here's my question, Professor: Why is that wobbling referred to as *libration*?

Prof. Stargazer, irritated: What is this, an astronomy interview or an English lesson?

The word *libation*, which looks similar to libration, refers to "a drink"; another similar word, *liberation*, means "free". The Moon wobbles, or librates, when it's had too many free drinks.

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