



## NEXT KAS OPEN MEETING

**Friday March 7th, 2014 @ Round Table Pizza  
4200 Gosford Rd Bakersfield 93313**

Dinner & Fellowship: **6:30 pm**  
Meeting & Program: **7:30 pm**



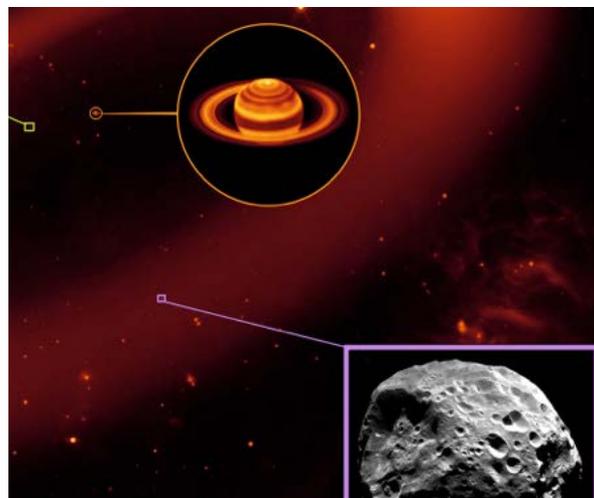
Program

**RANDY MORROW**  
"Celestial Navigation"



## A TWO-TONED WONDER FROM THE SATURNIAN OUTSKIRTS

DR. ETHAN SIEGEL



Although Saturn has been known as long as humans have been watching the night sky, it's only since the invention of the telescope that we've learned about the rings and moons of this giant, gaseous world. You might know that the largest of Saturn's moons is Titan, the second largest moon in the entire Solar System, discovered by Christiaan Huygens in 1655. It was just 16 years later, in 1671, that Giovanni Cassini (for whom the famed division in Saturn's rings—and the NASA mission now in orbit there—is named) discovered the second of Saturn's moons: Iapetus. Unlike Titan, Iapetus could only be seen when it was on the west side of Saturn, leading Cassini to correctly conclude that not only was Iapetus tidally locked to Saturn, but that its trailing hemisphere was intrinsically brighter than its darker, leading hemisphere. This has very much been confirmed in modern times!

In fact, the darkness of the leading side is comparable to coal, while the rest of Iapetus is as white as thick sea ice. Iapetus is the most distant of all of Saturn's large moons, with an average orbital distance of 3.5 million km, but the culprit of the mysterious dark side is four times as distant: Saturn's remote, captured moon, the dark, heavily cratered Phoebe!

cont. pg 5

## THE KERN ASTRONOMICAL SOCIETY INFOSHARE

### WHO WE ARE

Since 1956, The Kern Astronomical Society has promoted community awareness of current events in astronomy, and provides a forum for sharing of knowledge and experiences among amateur astronomers.

Annual membership is \$20.00 which also provides "Sky and Telescope" and / or Astronomy magazines at reduced rates. More information on our web site. The KAS will e-mail The Syzygy free of charge to any educator; just contact the editor.

### CLUB STAR PARTIES

The Kern Astronomical Society usually has 2 Club-Star Parties per month depending on the weather. We also host public Star parties upon request.

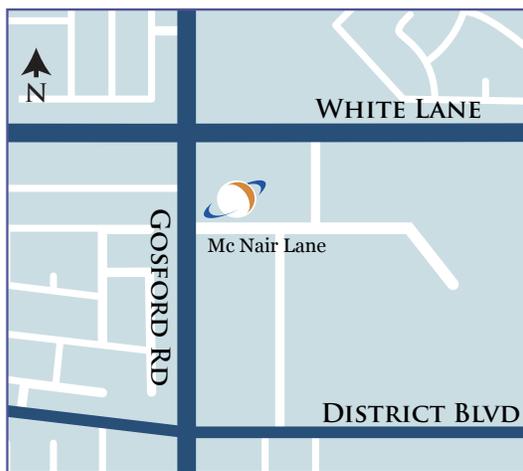
Our Star Parties are held on Saturdays. The primary date is the weekend of new moon with the secondary date being before or after new moon. You may get current Star Party information from our coordinator, Darren Bly.

### NEXT MEETING

**The KAS holds their Monthly meeting the 1st Friday of every month.**

**Round Table Pizza in the "Meeting Room"**

Diner & Fellowship: **6:30 pm**; Meeting: **7:30 pm**  
4200 Gosford Rd. #101, Bakersfield 93313, (661) 397-1111



### KAS CLUB TELESCOPES

The Kern Astronomical Society has telescopes and accessories (listed below) available for loan to Club members in good standing. Members are encouraged to borrow the different types of scopes in stock (especially if you are considering purchasing one-checking out and trying different types will help you make an informed purchase decision). If you have a Club scope in your possession, the KAS expects you to use it by participating in at least one Star party.

- 6" f/6, 8" f/6, 10" f/5.6, 13" f/4.5 Dobsonian scopes
- Parks Jovian 90, 3-1/2" F-13 Maksukov-Cassegrain
- 4" f/15 Unitron Refractor
- 8" solar filter
- Eyepieces up to 2" wide

### KAS CONTACTS

Star Parties	Darren Bly	661-832-0712	dcibly@bak.rr.com
Astronomy Day Coord.	Carol Powers	661-393-6379	clpowers@bak.rr.com
President	Diane Franco	661-487-2519	galxygrl@gmail.com
Vice President	Cathy Jones	661-319-4424	jonesdcm@aol.com
Treasurer	Ken Powers	661-393-6379	kpowers@bak.rr.com
Secretary	Heather Ponek	661-873-1545	heatronn@bak.rr.com
Board Member	Charlie Brown	661-833 8175	astronomer@inorbit.com
Board Member	Mike Ponek	661-477-4306	mponek@bak.rr.com
The Syzygy	Florencio A. Ortiz	661-204-1896	piezzo88@gmail.com

Kern Astronomical Society  
on Facebook

[facebook.com/groups/syzygy/](https://www.facebook.com/groups/syzygy/)



## THE PRESIDENT'S COMET

We are off and running! This year is going to be a busy year.. lot's of changes.. lots of events.. and even more growth! The KAS, I'm happy to say, has grown tremendously in the 9 years I have been with the club! I believe as Bakersfield continues to grow, so will the KAS. That growth, of course, implies change.

One such growth experience is whether the club wants to continue as a "social" club or get more structured and become a 501-C3 non-profit. With this comes more responsibility for all future treasurers, but also opens the door to hosting greater events for the community. We will also have to have an organized committee to revamp our constitution and by-laws. It would be nice to have 3 to 4 volunteers to work on this. Ponder the idea and let me know your thoughts.

On a FUN note.... Mt Wilson is around the corner and we still have 5 available spots! We are going to open those spots up to friends and family of the KAS.... AND of course ASTRONOMY DAY!

A special thanks to Dr. Nick Strobel for the informative newspaper article promoting Astronomy Day. It gave us a better understanding of Dark Matter and prepared us for Dr. Filippenko talk.. I'm excited!

I hope you all continue supporting your KAS, this is your club... your journey... your adventure....

Clear Skies

-Diane

## CELEBRATE THE NIGHT SKY

The night sky in Sequoia and Kings Canyon National Parks is nationally recognized. Our darkness not only adds to the aesthetic qualities of the wilderness, but is important to the health of our wildlife. The Dark Sky Festival aims to educate visitors about the importance of this park resource and inspire them to take action in their own community. We hope you join us and share your passion for the night sky and astronomy during this fun weekend.

The weekend will include:

- constellation tours
- telescope viewings
- solar observations
- astronaut speakers
- storytellers
- living history performances
- model rocket building
- home lighting demonstrations
- and more to be announced!

Join KAS on July 26th  
at this fun event!

The Dark Sky Festival  
runs from July 25th-27th



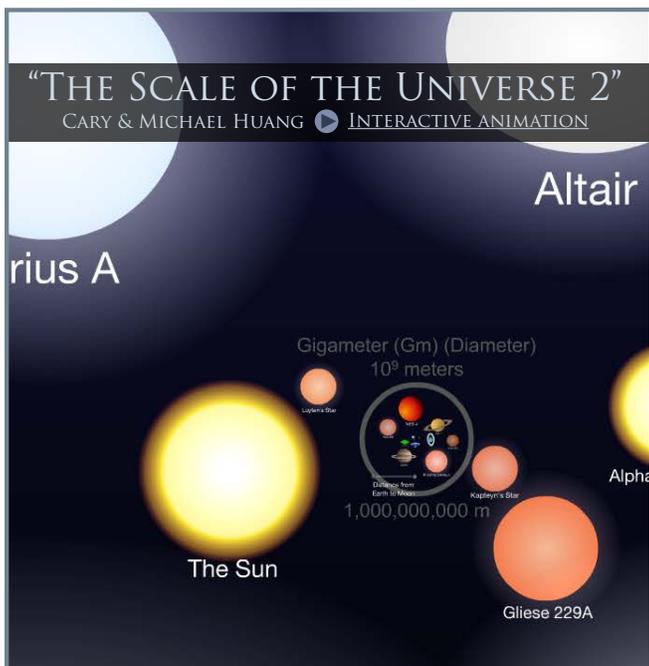
sequoia  
natural  
history  
association 

The logo for Sequoia National Park, featuring a silhouette of a sequoia tree and a mountain range.

SUN	MON	TUE	WED	THUR	FRI	SAT
23 moon ↑ 1:30 am moon ↓ 11:59 pm sun ↓ 5:46	24	25	26	27	28	1 12 midnight 
2 moon ↑ 7:04 am moon ↓ 7:49 pm sun ↓ 5:52	3	4 ○ Franklin Elementary 6:30	5 ○ Olive Drive Elementary 6:30		7 ○ KAS Meeting 6:30p ○ KAS at Science Camp 8:00a	8 5:27 am 
9 ○ Daylight Saving Starts: Clocks +1 hour	10	11 ○ Redwood Elementary 6:30	12	13 ○ KAS at Science Camp 8:00a	14 ○ KAS at Science Camp 8:00a	15
16 10:09 pm moon ↑ 7:25 pm moon ↓ 6:52 am sun ↓ 7:04	17	18	19	20 ○ Vernal Equinox ○ KAS at Science Camp 8:00a	21 ○ KAS at Science Camp 8:00a	22
23 6:46 pm moon ↑ 1:22 am moon ↓ 11:51 am sun ↓ 7:10	24	25	26	27 ○ KAS Board Meeting	28 ○ KAS at Mt. Wilson	29
30 11:45 am moon ↑ 6:35 am moon ↓ 7:33 am sun ↓ 7:16	31	1	2	3	4	5

STAR PARTY COORDINATOR **DARREN BLY** DCBLY@BAK.RR.COM

**"THE SCALE OF THE UNIVERSE 2"**  
CARY & MICHAEL HUANG INTERACTIVE ANIMATION



The Sun

Sirius A

Altair

Gliese 229A

Gigameter (Gm) (Diameter) 10<sup>9</sup> meters

1,000,000,000 m

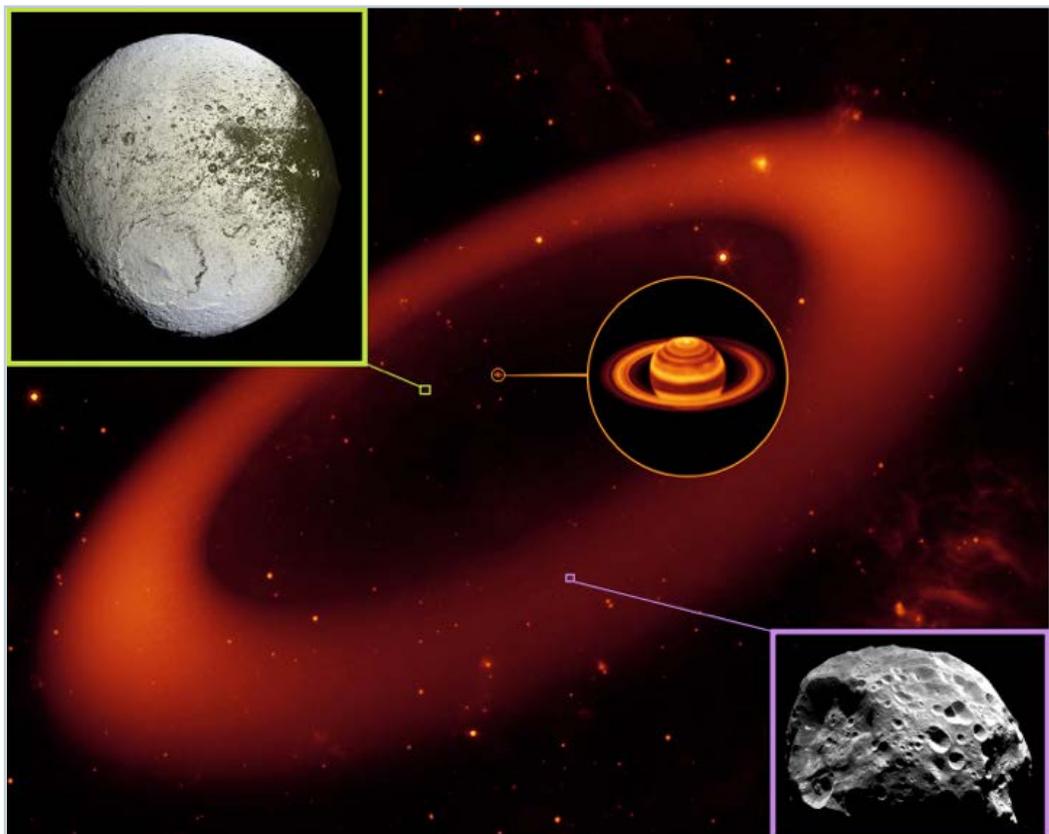
- 03.04 6:30-8p Franklin Elementary School, 2400 Truxtun (KAS member Walter Albrecht teaches there)
- 03.05 6:30-9p Olive Drive Elementary, 7800 Darrin Ave.
- 03.07 8a-12p Solar Viewing for Science Camps at Panorama Vista Preserve, East end of Roberts Ln.
- 03.11 6:30-9p Redwood Elementary School, 331 N Shafter Ave, Shafter.
- 03.13 8a-12p Solar Viewing for Science Camps at Panorama Vista Preserve, East end of Roberts Ln.
- 03.14
- 03.20
- 03.21
- 03.28 KAS at Mt. Wilson
- 04.07 Astronomy Day launch at Houchin
- 04.12 Astronomy Day
- 05.21-05.26 RTMC
- 07.07 KAS Picnic

## A TWO-TONED WONDER FROM THE SATURNIAN OUTSKIRTS

cont. from pgi

Orbiting Saturn in retrograde, or the opposite direction to Saturn's rotation and most of its other Moons, Phoebe most probably originated in the Kuiper Belt, migrating inwards and eventually succumbing to gravitational capture. Due to its orbit, Phoebe is constantly bombarded by micrometeoroid-sized (and larger) objects, responsible for not only its dented and cavity-riddled surface, but also for a huge, diffuse ring of dust grains spanning quadrillions of cubic kilometers! The presence of the "Phoebe Ring" was only discovered in 2009, by NASA's infrared-sensitive Spitzer Space Telescope. As the Phoebe Ring's dust grains absorb and re-emit solar radiation, they spiral inwards towards Saturn, where they smash into Iapetus—orbiting in the opposite direction—like bugs on a highway windshield. Was the dark, leading edge of Iapetus due to it being plastered with material from Phoebe? Did those impacts erode the bright surface layer away, revealing a darker substrate?

In reality, the dark particles picked up by Iapetus aren't enough to explain the incredible brightness differences alone, but they absorb and retain just enough extra heat from the Sun during Iapetus' day to sublimate the ice around it, which resolidifies preferentially on the trailing side, lightening it even further. So it's not just a thin, dark layer from an alien moon that turns Iapetus dark; it's the fact that surface ice sublimates and can no longer reform atop the leading side that darkens it so severely over time. And that story—only confirmed by observations in the last few years—is the reason for the one-of-a-kind appearance of Saturn's incredible two-toned moon, Iapetus!



Images credit: Saturn & the Phoebe Ring (middle) - NASA / JPL-Caltech / Keck; Iapetus (top left) - NASA / JPL / Space Science Institute / Cassini Imaging Team; Phoebe (bottom right) - NASA / ESA / JPL / Space Science Institute / Cassini Imaging Team.