

SCAS COAL SACK

EDUCATING SOUTH FLORIDA SINCE 1922

DECEMBER 2006



HOLIDAY GREETINGS

Lisa Merritt & Barb Yager



No SCAS December Public Program at FIU

We send our best wishes of Holiday Cheer and hope for a sparkling New Year to you all ! May 2007 bring you excellent health, higher energy, sharper focus, deeper compassion and assistance to those less fortunate, patience, and balancing your time more efficiently between your careers and 'reaching for the stars' —a time to reflect and aim toward goals of higher productivity and spiritual levels.

earliest SCAS public star parties. SCAS is the second oldest amateur astronomy club in the U. S. —eclipsed slightly by the Chicago Astronomical Society.

In the 21st Century, SCAS continues to receive non-stop invitations to participate in major public and private events from Shark Valley in Everglades National Park to Fairchild Garden and the historic Deering Estate on the Bay in South Dade. The list of requests from youth groups would run off this page! Our regular outdoor Saturday astronomy events: safe solarviewing at Metrozoo Saturdays 10-Noon, using the latest solar-filtered equipment, and our SCAS Saturday Nite Live Astros at Sadowski Park & Nature Center, 8-10 pm often with our Society's 18" Dob—the largest telescope in Miami-Dade County for public use, have become "institutions" with continued success for 20 years. SCAS Stargazer column in the Miami Herald has also survived (5 Herald publishers) for 23 years and now consumes a larger space with a basic sky map!!

SCAS reaches out into communities in Miami-Dade and Monroe counties, often sharing major events with our wonderful and talented SCAS members living in the Florida Keys, from their Florida Keys Astronomy Club: Annual Wildlife Weekend at Curry Hammock and our (non-public) world-renowned Annual SCAS Winter Star Party, on Summerland Key.

Your SOUTHERN CROSS ASTRONOMICAL SOCIETY of Miami, Florida will soon begin its 85th year of consecutive educational programs and events to the public. Founded in 1922 by northern tourists and Florida pioneers on the serene shores of the Miami River, our Society's name reflects the brief views of the Southern Cross constellation (Crux) seen above South Biscayne Bay, under the natural dark skies of those earlier times. We are proud owners of a yellow brick recently excavated by archaeologists from the foundation of Henry Flagler's 5-story hotel on the Miami River, near the shoreline site of our

Inside this issue:

HOLIDAYS
page 1

MEMBERS
Page 3

almanac
Page 4

star map
page 5

NOV EVENTS
Page 6

FL KEYS CLUB
page 7

FOR SCAS/NASA NEWS
CALL THE 24-HOUR
HOTLINE:
305 661-1375
OR VISIT THE
NEW SCAS WEB SITE:
HTTP://WWW.SCAS.ORG

continued on page 3

The Coal Sack

The Coal Sack is a monthly publication of the Southern Cross Astronomical Society, Inc., Miami, Florida

Editor: Lisa Merritt
Telephone: 305-412-3855

E-mail: PegasusLM@earthlink.net

Material for the Coal Sack must be submitted to the Editor by the 25th of the month prior to publication. Please use e-mail when possible.
Change of Address: Please notify Managing Editor Barb Yager with change of address or other membership information.

SOUTHERN CROSS ASTRONOMICAL SOCIETY, INC.

President	Dr. Lester Shalloway	305 233-9354
1 st Vice President	Tim Khan	305 301-9946
2 nd Vice President	Nick Stingone	305 247-3054
3 rd Vice President	Mike Smith	305 383-3021
Secretary	Barb Yager	305 273-7291
Treasurer	Edward O'Connell	305-666-4465
Parliamentarian	Russ Harcha	305-279-4288
Programs/Publicity	Barb Yager	305 273-7291
Education	Mike Smith	305 383-3021
Coal Sack Editor	Lisa Merritt	305 412-3855
Membership Dept.	SCAS	305 661-1375
Hospitality	Maria Sarria	305 891-3842
Librarian	Mohan Sundaram	305-924-6521
Historian		
Observatory Liaison	Bob Torres	305 232-3990
Members Star Party		
Directors:	Herm Perez	305-261-8817
	Tim Khan	305-301-9946

COMMITTEE CHAIRMEN

Observatory	Bob Torres	305 232-3990
WSP Registrars	Fred & Lucille Heinrich	386 362-5995
WSP Director	Tim Khan	305-301-9946

Check the larger SCAS STARGAZER now in the Thursday Miami Herald's Tropical Life section, by Barb Yager, now in its 22th year!

SCAS LIBRARY

The SCAS Library is undergoing upgrades this winter. During "quiet December" the inventory will be cleaned out, re-printed, and shelving labelled for a quick and easy search by SCAS members. New books are available and imprinted with the SCAS ID. At the SCAS public programs at FIU, Librarian Mohan Sundaram will check your books and videos on a 30-day cycle.

CLASSIFIED

SUPER SALE!

8" Meade LX200 telescope. Excellent condition. For details call Jose: 305-951-2912.

10 ft/ DOME FOR SALE

A 10 ft. Technical Innovations fiberglass dome in excellent condition, with 2 motors, control system, computer with Sky6 and Dome control software included. Base ring to mount onto any flat surface. (about \$10,000. new) ONLY \$2500. mikepalemiti@bellsouth.net

THE ART OF COLLECTING METEORITES

A fantastic chronology based on true adventures by author Kevin Kuchinka, Ft. Myers, FL. His travels, friendships and search for specific rare meteorites in South America, advice for collecting and preserving the precious items and fraud prevention with dealers is crucial information to a meteorite hunter/collector. For only \$10. the 200 pg. journal contains ___ color photos to help you, or a friend, begin a new hobby. Great gift suggestion! Order now: SCAS HotLine: 305-661-1375.

2007 WINTER STAR PARTY TICKET NEEDED

I need a Winter Star Party ticket! Please contact SCAS member Jose M. Cardozo, Miami, FL 786-301-7461 ASAP!

Send in your classified ads to PegasusLM@earthlink.net or BarbYager@aol.com

Happy Holidays

continued from page 1

Special celestial events: eclipses, meteor showers, major occultations, conjunctions and transits are well advertised, but their success is dependant upon weather conditions. Stay tuned to our dynamic SCAS website: www.scas.org that features the Miami track of the International Space Station, awesome photos by our talented members, monthly almanac, membership application and future events. New features will appear in 2007!

Global website: www.spaceweather.com displays incredible photos of auroras, solar, lunar, comets and fascinating deep sky events updated on a daily basis. The website: <http://spaceflight.nasa.gov> has the latest tracks by the ISS and NASA shuttles over major cities worldwide. Many more websites are available to SCAS novice and advanced astros.

SCAS membership remains beyond the 200 mark--45 new members in 2006. Seventeen members live

outside Florida. Ten live in the Florida Keys.

SCAS monthly programs at FIU feature distinguished speakers on a wide range of topics related to astronomy and space exploration during the school semesters. This summer SCAS will offer a workshop and observing orientation as educational tools, in place of our normal speaker format. SCAS members will enjoy our up-graded Library early in 2007.

The Society's legacy to maintain a strong educational policy of fereng accurate astronomy information, assistance with equipment, promoting astronomy programs in the community, as specified when SCAS was incorporated in 1929, continues to be more successful than ever thanks to our loyal, talented and dedicated members in the world-renowned SCAS.

Cheers and Greetings,
Editors Lisa Merritt and Barb Yager

MEMBERS IN THE NEWS

ATTY. NOAH RASHKIND, Miami, former U. of Florida honors and astronomy grad student, has spent many a school vacation observing at Kitt Peak. He is also involved in the Flamingos-2 Project that began a few years ago on campus and recently became a reality Flamingos-2 is a Near-Infrared wide-field imager and multi-object spectrometer for use on the huge Gemini-South. Currently under construction at the University of Florida Astronomy Dept., the estimated delivery of Flamingos-2 to Gemini-South in northern Chile could occur in the first quarter of 2007. Following a period of characterization and commissioning after the delivery, and 60 night hours allocated for system verification, it will be available for scientific use. In September 2007, the first general public call for scientific observations in Semester 2008A may be posted—and you bet that NOAH will take time off from the law firm and be at Gemini-South!...Past President R. SCOTT IRELAND may soon be headed to Ecuador to photo the volcano Tungurahua when it again spouts fire and flying rocks. He is author of PHOTO SHOP ASTRONOMY, published in 2005 by Wilmann-Bell, Inc...World-renowned planetary photographer, author and lecturer, DR. DON PARKER has a 5-page article in January 2007 Sky & Telescope magazine beginning on p.129: HOW TO PROCESS PLANETARY IMAGES. Our Southern Cross Astronomical Society is very very proud of our many talented members!...A sudden phone reply from former SCAS Board Member/Historian RIC BABCOCK in CA from his car on his daily 138 mi. round trip commute between Salinas and his Post Office job in San Jose—"Gail (wife) and I will be in Miami just before I run in the ING sponsored Miami Marathon Sunday, January 28th. Want to get together with you Directors"!!! Will do.

NEW MEMBERS

SCAS extends a very warm welcome to PETER & PAUL VALANT, N. Miami Beach and JANINA CAMPBELL, Kendall, a medical tech at Baptist Hospital. Your very generous \$100. donation to SCAS is sincerely appreciated. We look forward to your next visit.

DECEMBER ALMANAC AT A GLANCE

Winter FULL MOON Monday, 4th 7:25 p.m.
 LAST QTR MOON Tuesday, 12th 9:32 a.m.
 NEW MOON Wednesday 20th 9:01 a.m.
 FIRST QTR. MOON Wednesday 27th 9:48 a.m.

SUNRISE: 7:00 a.m. (mid-month) SUNSET: 5:25 p.m.
 WINTER SOLSTICE - 21st 7:22 EST

MORNING SKIES:

Use binoculars for spectacular views of planets and Moon.
 2nd- 6 a.m. ruddy MARS rises above the SE horizon.
 MERCURY shimmers above.
 5th- Bright JUPITER appears on the SE horizon below MARS & MERCURY.
 9-11th-Rare planetary 'trio' merges within 1 degree! Re-occurs 11/25/2053.
 14th- Planets re-arrange: JUPITER (top) MARS (middle) MERCURY descending. They lead huge Scorpius over the SE horizon.
 18th- Waning MOON joins the celestial 'trio' in Scorpius.
 23rd- At dawn, MARS glows left of bright Antares (red heart of Scorpius). Use binoculars to compare red tones of each.
 Silver-ringed SATURN leads Leo the Lion westward.
 Big Dipper hangs in the north.
 Bright Arcturus, Herdsman, sparkles overhead.
 Winter constellations drift lower in the west.
 Corvus the Crow flies across the south, ahead of Spica in Virgo.
 The stars of Libra drift higher in SE.
 Huge Scorpius climbs above SE horizon.
 Vega rises in the NE.
EVENING SKIES:
 1st- At dusk, VENUS appears briefly on the SW horizon. The brilliant Evening Star will rise higher each week.
 3rd- Bright MOON nudges the Seven Sisters (Pleiades star cluster).
 7th- MOON floats near the Gemini Twins.
 10th- MOON meets SATURN in Leo the Lion.
 13th/14th- GEMINID METEOR SHOWER begins late evening. 30/hr.
 21st- WINTER SOLSTICE occurs 7:22 p.m. when SUN reaches Tropic of Capricorn in the Southern Hemisphere. Nights are longest. Young MOON rises briefly left of sparkling VENUS in SW.
 22nd- URSID METEOR SHOWER radiates from the Little Dipper & Polaris. 10/hr.
 25th- By nightfall, MOON nudges outer planet URANUS in Aquarius SW. The star Fomalhaut twinkles below them.
 31st- MOON forms a triangle with 2 star clusters: Pleiades (above) & Hyades (below).
 Blazing winter constellations fill the evening skies:

Seven Sisters lead Taurus the Bull, Aldebaran in the Hyades cluster, Capella in Auriga, Gemini Twins, Orion, & his Big Dog with blue Sirius and Procyon. Queen Cassiopeia, King Cepheus and Andromeda (nearest galaxy) reign in the north. Aries the Ram chases the Winged Horse (Pegasus) lower in the west.
 Mid-evening: SATURN leads Leo the Lion higher in the east.
 The Big Dipper rises in NE.

Moon Set/Rise Table for DEC/JAN

Date (m/d)	Moon Rise	Moon Set
16/12/2006	3:19	14:28
17/12/2006	4:15	15:05
18/12/2006	5:14	15:49
19/12/2006	6:14	16:39
20/12/2006	7:14	17:37
21/12/2006	8:11	18:39
22/12/2006	9:03	19:45
23/12/2006	9:48	20:50
24/12/2006	10:28	21:54
25/12/2006	11:05	22:56
26/12/2006	11:39	23:58
27/12/2006	12:12	—
28/12/2006	12:47	0:59
29/12/2006	13:25	2:02
30/12/2006	14:07	3:07
31/12/2006	14:55	4:14
1/1/2007	15:49	5:20
2/1/2007	16:49	6:24
3/1/2007	17:52	7:21
4/1/2007	18:54	8:10
5/1/2007	19:54	8:53
6/1/2007	20:51	9:29
7/1/2007	21:44	10:01
8/1/2007	22:35	10:30
9/1/2007	23:26	10:58
10/1/2007	—	11:25
11/1/2007	0:16	11:54
12/1/2007	1:08	12:25
13/1/2007	2:02	13:00
14/1/2007	3:00	13:40

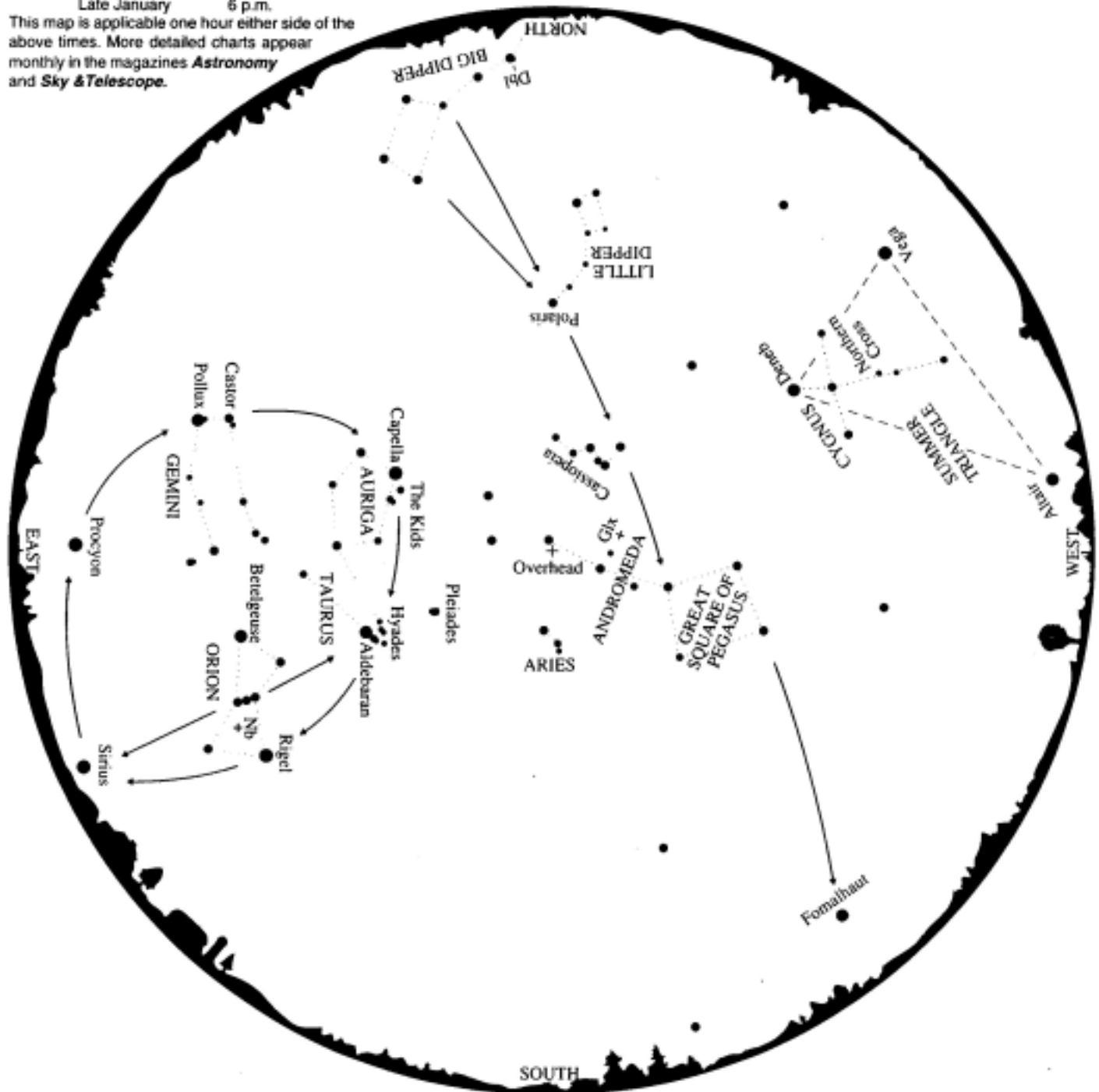
December Evening Skies

This chart is drawn for latitude 40° north, but should be useful to stargazers throughout the continental United States. It represents the sky at the following local standard times:

Late November	10 p.m.
Early December	9 p.m.
Late December	8 p.m.
Early January	7 p.m.
Late January	6 p.m.

This map is applicable one hour either side of the above times. More detailed charts appear monthly in the magazines *Astronomy* and *Sky & Telescope*.

© 2006 Abrams Planetarium
 Subscription: \$11.00 per year, from *Sky Calendar*,
 Abrams Planetarium, Michigan State University, East
 Lansing, MI 48824-1324.



No planets are above the horizon at map time. Eleven objects of first magnitude or brighter are visible. In order of brightness they are: Sirius, Vega, Capella, Rigel, Procyon, Betelgeuse, Altair, Aldebaran, Pollux, Fomalhaut, and Deneb. In addition to stars, other objects that should be visible to the unaided eye are labeled on the map. The double star (DbI) at the bend of the handle of the Big Dipper should be detectable above the treetops in the north.

The famous Orion Nebula, a cloud of gas and dust out of which stars are forming, is marked (Nb) in that constellation. The position of an external star system, called the Andromeda Galaxy after the constellation in which it appears, is also indicated (Glx). Try to observe these objects with unaided eye and binoculars.

—D. David Batch

NOVEMBER EVENTS

FAIRCHILD GARDEN MOONLIGHT TOUR-
Thursday, November 2nd our SCAS Astros had to cancel due to poor weather.

ANNUAL FAIRCHILD GARDEN RAMBLE-
Perfect sunny weather November 11 & 12th attracted crowds of visitors at our safe, solarviewing telescopes. Several people made return visits to catch another glimpse of prominences exploding off the solar surface. SCAS members: Mike Mooney, Herm Perez, Tony Romero, Jim Rose, Cristian Ruiz, Pres. Lester Shalloway, Nick Stingone, Mohan Sundaram and Ken Willis assisted Mike Smith during the weekend. Our large tent packed with SCAS/NASA information, video, photos, sky maps, newsletters, etc. drew a steady stream of visitors from early mornings until closing late Sunday afternoon when our supplies were depleted!

Nick arrived both mornings to open the tent and arrange our SCAS material. This year a record-breaking crowd attended the Ramble. My very sincere thanks to members: Diego & daughter Sandra Alonso, Dan & Randi Jones (who corrected a stack of brochures) and all of those listed above who worked hours at both SCAS locations for making our 2006 SCAS Exhibit a huge success to more than 13,000 visitors. No wonder I had laryngitis the next 2 days! We also greatly appreciate the Fairchild Garden staff who invite us every year.

JAZZ CONCERT at DEERING-
Saturday evening, November 11th, several thousand folks attended the popular Jazz Concert at Deering by The Bay. Cars were parked on both side of Old Cutler Rd. from SW 160 St. to the canal at SW 174th St. and along both sides of SW 168th St. Police tried to channel drivers into commercial parking lots. Dozens of visitors enjoyed celestial views in the telescopes provided by SCAS members: Judy Elkins, Sergio Figuera, Tim & Munnezzah Khan, Ximena Maureira, Vicki and Steve Van Ryn—until late night fog rolled in!

LEONID METEORWATCH-
About 100 visitors arrived to catch some Leonid Meteors at Sadowski Park Saturday 18th. Blankets and chairs were strewn across the spacious lawn under partly cloudy skies. Our loyal Saturday Nite Live

Team focused hi-tech equipment on Andromeda, Ring Nebula, double star in Cygnus, star clusters in Sagittarius, Hercules Cassiopeia and Perseus. Our SCAS 18" Dob (the largest scope for public use in Miami-Dade) really stole the show as Russ Harcha explained the celestial objects to long lines of excited visitors. Only a few Leonids appeared. We finally locked the Park gate about 1 a.m.

AUTUMN STAR PARTY-
Following two beautiful sunny breezy days, clouds moved in from the ocean to completely cover the night sky November 24th ruining the public Star Party at the Chokika site, East Everglades. The friendly ENP ranger entertained us with his "night prowling" stories. Finally we gave up! Quite discouraging after weeks of legal preparation for the event. My very sincere thanks to SCAS Astros who made the long haul to assist me: Scott Ireland, Nick Stingone, Tim & Munnezzah Khan, Mike Smith, Mohan Sundaram, Steve Van Ryn and Judy Elkins and George.

NASA SPACE CALENDAR

December 2006

2nd- Comet Shoemaker-Levy 6 closest approach to Earth (0.960 A.U.)

3rd- Moon occults Asteroid 7 Iris

5-7th- 2nd Annual Florida Space Conference, Orlando, Florida

7th- NASA SIS-116 Shuttle Discovery launch, 9:36 p.m. Kennedy Space Center

10th Moon occults Saturn

12th- Cassini - Titan Flyby

13th- Geminid Meteor Shower Peak

22nd- Winter Solstice 00:22 UT

" Ursids Meteor Shower Peak

" Comet West-Kohoutek-Ikemura closest approach to Earth (0.726 AU)

25th- Moon occults Uranus

28th- Cassini, Titan Flyby

January 2007

2nd- Asteroid 2006 UQ17 Near-Earth Flyby (0.030 AU)

3rd- Earth at Perihelion (0.983 AU from the Sun)

" Quadrantids Meteor Shower Peak

Ron Baalke ron@jpl.nasa.gov

ANCIENT ASTRONOMY

Secrets from a 2,000 year old Greek analogue "astronomical computer" have recently been revealed by a team of Greek, British and U.S. scientists using hi-tech x-ray scanning and imaging techniques to uncover delicate hand written instructions and symbols on bronze. Project leader Mike Edmunds, Professor of Astronomy at Cardiff University, SW Wales, explained this discovery at a 2-day conference in Athens, Greece November 30th. The results were published in Nature magazine.

The remains were first discovered in 1902 when sponge divers near a Roman cargo ship that sailed from Rhodes and sank 164 ft. deep near the southern Greek Isle of Antikythera in the first Century B.C. The divers brought pieces of a gear wheel, cogs and 82 corroded bronze pieces inscribed with astronomical, mathematical and mechanical inscriptions that date back to 140-11 B.C. —a total of 30 hand-cut bronze gears—the largest fragment has 27 cogs. The first comparable devices known in the West were clock-work clocks developed in the Middle Ages. For the past century this complex mechanism has baffled scientists.

Detailed images reveal a centrally placed dial on the front plate that showed the Greek Zodiac and the Egyptian calendar on concentric scales. On the back, two dials displayed information re: the timing of lunar cycles and eclipse patterns. The box-shaped mechanism was operated by a hand crank and could predict accurately the day, time and precise hour of an eclipse. It could also predict the motion of Venus and Mercury, lunar phases, and positions of the Sun and Moon in the Zodiac. The Moon moves slightly faster in the sky due to its elliptic orbit. The designer of the Antikythera Mechanism incorporated a 'pin and slot' device to connect the two gear-wheels that resulted in the necessary variations.

One of the scientists stated that "the designer and maker of this device knew what they wanted to achieve, and it was done expertly. They made no mistakes." Prof. Edmunds remarked "We have used the latest technology available to understand this mechanism, yet the technological quality in this ancient mechanism puts us to shame!"

—Jonathan Fildes, Science Reporter BBC News/ Nicholas Rphitis, AOL News 12/02/06

FLORIDA KEYS ASTRONOMY CLUB

George Tegzes, President

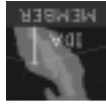
The Florida Keys Astronomy Club brought telescopes to Bahia Honda State Park to show the public the rare Mercury Transit across the Sun Wednesday afternoon, November 8th. Our mission was to show the park guests the Transit, as well as witness and photograph it. We had great success. The 'seeing' was rough with about 50% clouds, but we got our shots. At least 75 folks got to see this rare event. Mercury's crisp disk seemed to really be well above the sun's surface with the contrasting low huge sunspot there was a strong feeling of depth. The Club's 6" Newtonian was the 'star performer' showing really fine views. The day was so much fun that I'm already making plans for the next Mercury Transit in 2016.



FKAC Mercury Transit party: Chris Adair used a Questar on loan from Michelle Wisniewski. His wife Ren Stanhouse was busy taking photos of members and the public. Ron Poller assisted lines of visitors waiting to look through the 6". We also had a small refractor and #14 dark welders glass. George Tegzes captured a photo of Sun-Mercury on the Club's 4" refractor.

SAVE SCAS MONEY! GO PDF

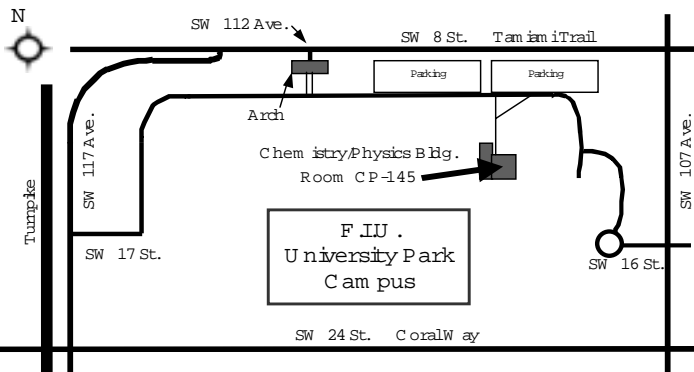
SCAS is a member of
The Astronomical League and
The International Dark Sky Association



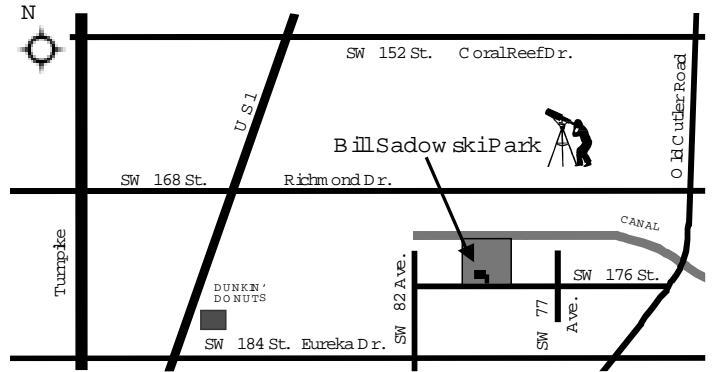
Address connections requested
A 501c(3) Non-Profit Organization
Miami, FL 33176
c/o 10221 SW 116 Avenue
Southern Cross Astronomical Society, Inc.



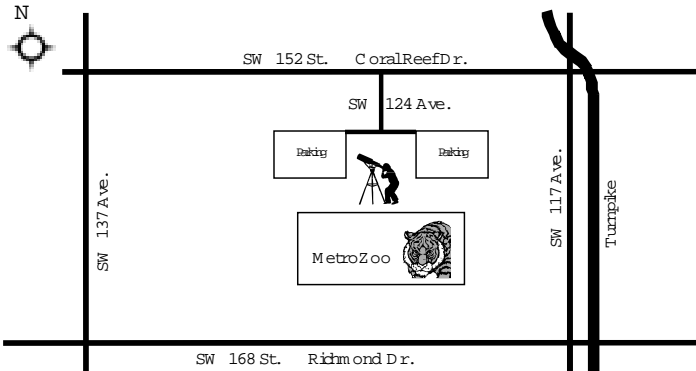
SCAS General Meetings - Third Friday of every Month



SCAS Star Gazing - Every Saturday Night 8-10pm



Saturday Solar Viewing - 10am - 12noon



For SCAS/NASA News Call
the 24-Hour HOTLINE:
305-661-1375

Or Visit the NEW SCAS website:
<http://www.scas.org>

SCAS annual dues: \$25 adults/\$10 full-time students