



THE NEKAAL OBSERVER

April 2005 VOLUME 13, ISSUE 4

PO BOX 951, TOPEKA KS 66601

(785) 806-1177 www.nekaal.org

The official newsletter of Farpoint Observatory and
the Northeast Kansas Amateur Astronomers' League

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Your articles and other contributions to this newsletter are welcome and encouraged. Please get them to the editor at least 6 days prior to the next scheduled meeting.

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FROM THE PRESIDENT: By Graham Bell

Tombaugh Project: The Tombaugh Telescope is here and set up! There is some tuning required, and Gary has been hard at it since March 10. Collimation was a problem, that seem to be resolved. There is baffling needed, as too much stray light is washing out the images. Gary has been making progress on that, but it is an iterative, step at a time process. It will be some time before the images are the best we can get.

Gary and I have also been looking at the possibility of a change in the design of the optical path. More on this later.

E/PO Building: Bill Leifer has arranged for someone to work with us on constructing the building. We are definitely not yet ready to start construction.

NASA Funding: The NASA funds are technically to be spent before April 15. That puts us in a bind with respect to the Kessler building (E/PO observatory), and limits what we can do with our attempts to improve the telescope. There is a provision for obtaining an extension of the time during which funds

must be spent. I'll be applying for that extension by the first of next week.

Upcoming Program: In May I will be presenting a paper at the Annual Society of Astronomical Sciences (SAS) conference at the Northwoods Resort in Big Bear Lake, CA.. The talk will cover the history of astronomy at KU, in particular the history of the 27 inch Pitt (now Tombaugh) telescope. It will also cover the design and construction of the Tombaugh. I gave a form of that talk, concentrating on the KU Astronomy program history, at the AAL meeting in Lawrence on March 11. It was well received, so I'll subject you to the same presentation on April 28.

Dedication Ceremony: Plans for the April 2 dedication ceremony are still on track. Announcements have been mailed to a number of people and a press release has been sent to most media outlets in the area. I have, at his request, given a local reporter some additional information on the FAST work, the observatory, and on Clyde Tombaugh's background.

EDUCATION/PUBLIC OUTREACH UPDATE: Janelle Burgardt

First Light—finally! One of the expenditures from the NASA EPO grant was for an 8" GPS telescope to be used for public observing sessions away from Farpoint Observatory. Received in November, the scope has yet to be made usable. It was finally determined that the tripod had a manufacturing flaw that made it impossible

to level the scope. Graham Bell has offered to return the offending section for replacement. In the meantime, Bill Leifer generously offered his tripod for use during the March 18 Open House, and the scope performed beautifully. Visitors saw Saturn, Jupiter, the Moon and the Orion Nebula through the new scope.

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SKY HIGHLIGHTS FOR APRIL: *by Janelle Burgardt - Astronomy Program Director*

April 1	Last quarter moon
April 2	Jupiter at opposition
April 8	New Moon
April 12	Mercury at greatest eastern elongation
April 16	First quarter moon
April 21-22	Lyrid meteor shower. This year's shower will be largely overpowered by a waxing gibbous moon.
April 24	Full Moon, April's full moon is called the Egg, Frog, Grass, or Pink Moon
April 26	Mercury at greatest western elongation

Planets

Mercury—Reappears in the morning sky mid-month in Pisces.

Venus—not visible this month

Mars— Rises 3 hours before sunset in Capricornus, Mars moves into Aquarius by the end of the month, and brightens from +0.9 to +0.6 magnitude.

Jupiter— Visible all night long at magnitude -2.5, averaging 12° northwest of Spica in Virgo.

Saturn—Making an arc with Castor and Pollux in Gemin, Saturn shines at magnitude +0.2. Reaching eastern quadrature on the 10th, the planet's shadow extends its furthest eastward across the rings for the first half of the month.

EDUCATION/PUBLIC OUTREACH UPDATE: (continued)

(Continued from page 1)

Upcoming EPO Activities

Mid-April	Farpoint FAST-NEO presentation Mission Valley High School Science Students By: Gary Hug
	Presentation at Junction City High School Topic to be determined By: Janelle Burgardt
April 19	Presentation at Elk Creek Observatory (Holton) By: Gary Hug

Reminder:

PAST DUE. If you haven't paid your dues for 2005 yet, you are already missing one copy of the Reflector, and may lose the Observer soon.

Clyde Tombaugh and Pluto.

As noted last month, Clyde Tombaugh discovered Pluto in February 1930, 75 years ago. That event makes the timing of our Tombaugh dedication even more relevant. At the AAL meeting in Lawrence, they celebrated that discovery with a cake in his honor.

The NASA Space Place article this month is, appropriately enough, on the exploration of Pluto.

Announcements

Red River Astronomy Club will host the first ArkLaTex Star Party beginning Sept. 1st. and will conclude Labor Day, Sept. 5th, 2005 near Nashville, Ark. Armed with new technology, amateurs are contributing vast amounts of data and research to the scientific community. Hear what you can do in the fields of spectroscopy, Cata-

clysmic Variables, NEO and Super Nova searches. There are also presentations on collimation, imaging and a history of amateur contributions.

ArkLaTex Star Party will supply dark skies, plenty of camping space, a vendor (Rex's Astro Stuff), international known amateur and PhD presentations, meals, T-shirts, swap meet, showers, electricity, door

prizes, movies on a 72 inch screen and broad band internet access on the field via wireless connection. There are also many interesting, beautiful and historic sites surround Nashville, AR, including a diamond mine, an Indian village and canoeing.

(Continued on page 4)

Nekaal-Bank, Cash, CC Accounts 3/12/2005

Cash Accounts As of 3/12/05
Acct Balance

ASSETS

Cash and Bank Accounts

Money Market 822.49
Money Market 2-Telescope Fund 698.00
Money Market 3- Education Bldg 6,075.00
Nekaal-checking 1,123.99

TOTAL Cash and Bank Accounts 8,719.48

TOTAL ASSETS 8,719.48

LIABILITIES 0.00

OVERALL TOTAL 8,719.48

NEKAAL Cash Flow Report 1/1/05 Through 3/12/05 Category Description

INFLOWS

Contributions 4,015.00
Dues 2005 450.00
Int Inc-Interest Income 0.37
Memorial-Marvin Kessler-contributions 1,500.00
NASA Grant Activity—NEO
NASA 22,118.00
Disbursement 22,148.97

Total NEO/Scope -30.97

NASA Grant -Education:

Ed-Telescopes -85.95

TOTAL NASA Grant -Education -85.95

Net Sales:

Cost of Mdse -52.50
Sale of Mdse 44.00
Sales Taxes -13.16

TOTAL Net Sales -21.66

TOTAL INFLOWS 5,826.79

OUTFLOWS

Annual Report 40.00
Postage 120.26

Subscriptions:

Magazine Subs 65.90
Subs.payments recd -65.90

TOTAL Subscriptions 0.00

Supplies—Supplies 26.22

Telephone-Telephone Expense 73.94

TOTAL OUTFLOWS 260.42

OVERALL TOTAL 5,566.37

AFFILIATED ORGANIZATIONS:



International Dark-Sky Association
IDA
<http://www.darksky.org>



Astronomical League
<http://www.astroleague.org>

15 Events Logged

NASA's Night Sky Network.
<http://nightsky.jpl.nasa.gov/>

HERE ARE SOME PRICES FROM THE NEKAAL STORE:

<u>Periodicals</u>		<u>Merchandise</u>		Tote bags	\$8.00	
S&T	\$32.95	hats	\$8.00	marked down	Coffee Mugs	\$10.00
Astronomy	\$29.00	Tshirts	\$8.00	marked down	Please contact Walter or Nancy Cole to acquire any of these items.	
		Sweatshirt	\$10.00	marked down		
		Name tags	free			

(Continued from page 3)

For more information, please visit rrac.org

MARAC—The annual MARAC conference will be held in Kansas City April 15-16. The poster describing this conference has been placed in the Yahoo Group Members file section. Please refer to that document for registration information. If you do not use Yahoo Groups to get your Observer, a copy (for members) has been inserted into your copy of The Observer.

October Sky Live Interview—The NASA Glenn Research Center in partnership with the Cleveland Area Metropolitan Library

System will be conducting a live 60 minute discussion with Homer Hickam author of the #1 New York Times Bestseller Rocket Boys and inspiration for the hit movie October Sky on April 14, 2005 from 11:30am EST to 12:30pm EST.

Rocket Boys by Homer Hickam, is the true story of the author's life growing up in the mining town of Coalwood, West Virginia. In October 1957, Sputnik raced across the Appalachian sky, leaving in its wake 14-year old Homer's dream to build rockets. With the help of his friends, a dedicated teacher, his mother, and others in his small, company town, Homer's rockets would

carry him, and his town, farther than he ever expected.

The free live broadcast, webcast, and video-conference will feature Homer Hickam discussing his inspirational life story and the key people who helped him along the way. The program will feature numerous opportunities for students and the public to interact with the author through email. For Additional Information, Related Activities and Connection Details Visit: <http://www.nasa.gov/centers/glenn/education/> (Link will be active 3/15/2005)

UTTERLY ALIEN: by Dr. Tony Phillips

There's a planet in our solar system so cold that in winter its nitrogen atmosphere freezes and falls to the ground. The empty sky becomes perfectly clear, jet-black even at noon-time. You can see thousands of stars. Not one twinkles.

The brightest star in the sky is the Sun, so distant and tiny you could eclipse it with the head of a pin. There's a moon, too, so *big* you couldn't blot it out with your entire hand. Together, moonlight and sunshine cast a twilight glow across the icy landscape revealing . . . what? twisted spires, craggy mountains, frozen volcanoes?

No one knows, because no one has ever been to Pluto.

"Pluto is an alien world," says Alan Stern of the Southwest Research Institute in Colorado. "It's the only planet never visited or photographed by NASA space probes."

That's about to change. A robot-ship called New Horizons is scheduled to blast off for Pluto in January 2006. It's a long journey: More than 6 billion kilometers (about 3.7 billion miles). New Horizons won't arrive until 2015.

"I hope we get there before the atmosphere collapses," says Stern, the mission's principal investigator. Winter is coming, and while it's warm enough now for Pluto's air to float, it won't be for long. Imagine seeing a planet's atmosphere collapse. New Horizons might! "This is a flyby mission," notes Stern. "Slowing the spacecraft down to orbit Pluto would burn more fuel than we can carry." New Horizons will glide

past the planet furiously snapping pictures. "Our best images will resolve features the size of a house," Stern says.

The cameras will also target Pluto's moon, Charon. Charon is more than half the size of Pluto, and the two circle one another only 19,200 kilometers (12,000 miles) apart. (For comparison, the Moon is 382,400 kilometers [239,000 miles] from Earth.) No wonder some astronomers call the pair a "double planet."

Researchers believe that Pluto and Charon were created billions of years ago by some terrific impact, which split a bigger planet into two smaller ones. This idea is supported by the fact that Pluto and Charon spin on their sides like sibling

worlds knocked askew.

Yet there are some curious differences: Pluto is bright; Charon is darker. Pluto is covered with frozen nitrogen; Charon by frozen water. Pluto has an atmosphere; Charon might not. "These are things we plan to investigate," says Stern.

Two worlds. So alike, yet so different. So utterly alien. Stay tuned for New Horizons.

Find out more about the New Horizons mission at pluto.jhuapl.edu/. Kids can learn amazing facts about Pluto at spaceplace.nasa.gov/en/kids/pluto.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.



New Horizons spacecraft will get a gravity assist from Jupiter on its long journey to Pluto-Charon. Credit: Southwest Research Institute (Dan Durda)/Johns Hopkins University Applied Physics Laboratory (Ken Moscati).

NEKAAL Board Minutes--March 12, 2005

Members present: Walt Cole, Bill Leifer, Janelle Burgardt, Gary Hug, Dan Tibbetts, Russ Valentine, Jerry Majers. Special Guest: Jerry Foote, ScopeCraft. Members Absent: Patsy Rush, Kevin Dobbs, Graham Bell, Debbie Roberts.

The meeting was called to order by the Chairman, Jerry Majers, at 2:50 PM on March 12, 2005.

Previous Minutes - The minutes of the previous meeting were accepted.

STANDARD REPORTS**FINANCIAL REPORT – Walter Cole:**

Walt distributed the financial statement. The ending cash balance is \$8719.48

The mileage allowance for Gary's trip to check out the scope in Utah was discussed, and a figure of \$ 0.31 per mile was agreed upon based on Kansas average.

Payment source for the recent upgrade with gravel was discussed. Because it was needed for the trailer to bring in the new telescope, it was decided to pay for it out of the grant money. Similarly, money from the grant will be used for any extender apparatus needed for the focal reducer to block extraneous light a 12' X 16' tarp to be used as a dust cover for the telescope, and if funds remain, for filters for the filter wheel needed to do photometry.

Walt determined that an insurance policy to cover the scope, required under the Federal Rules regarding grants, will cost about \$1000 per year. This will be needed, at least for the length of the grant commitment. Agreement was unanimous to proceed with that.

Gary announced that the money coming from the second year of the E/PO grant will be \$1605.00.

FPO Facilities Report – Bill Leifer:

Bill updated the board on the gravel project.

Bill discussed the need for telephone service to allow a dial-up internet connection. The pros and cons of installing a land line vs. staying with cellular coverage from Cingular were discussed. It was decided that the grant requires us to provide timely data and work efficiently, and dial-up connection will be needed for up to two months during the time the school network is down over the summer. The monthly cost of local Sprint service will be less than the current Cingular service and installation would be less than \$100. This will result in long distance charges two and from Topeka. Though small, this will have to be specified on the web site. Messaging for E/PO and other needs would require a message machine with remote access.

cess. It was moved, seconded, and passed to install the land line and obtain the appropriate message machine, the latter costing about \$35. Bill was authorized to proceed with that.

Night Sky Network and E/PO Report - Janelle Burgardt: Deferred to April due to other business.

OTHER OLD BUSINESS/PREVIOUS ASSIGNMENTS**Tombaugh Telescope – Graham Bell and Gary Hug and Jerry Foote:**

The status of the current installation of the Tombaugh telescope and its condition and operation were discussed. Various questions were directed to Jerry Foote who provided information on most aspects of the project. Based on determination that ScopeCraft had satisfactorily completed its contractual obligations on building the telescope, Walt presented a certified check to Jerry Foote for the remaining money due to ScopeCraft on the project.

Tombaugh Dedication:

The components of the upcoming Tombaugh Dedication Ceremony and activities were discussed in some detail:

Announcements need to be sent to various officials. These will include information from prior press release. The announcement and the mailing list will be provided to Bill, who will be doing the mailings. Driving directions will need to be enclosed. Computer printed mailing labels will be used.

The ceremony agenda will start at 2 PM on April 2 at the School, exact room to be determined. There will be speakers for about 40 minutes, which will include Graham, Bruce Twarog, Chuck Schmidt, Lindley Johnson, and Gary Hug. Food will be provided at the school, either by pot luck or by catering, to be determined. The Observatory will then be open from 3-5PM for people to view the telescope. First Light Ceremony will occur at 9PM, which will be weather dependent, and will be followed by a NEO imaging session for those interested, again depending on the weather.

Bill will do the Ceremony programs, and content will be sent to Bill for that project. 100 programs will be printed.

Bill offered to do a video of the First Light Ceremony, which will be converted to a QuickTime movie for posting on the internet.

NEW BUSINESS

No new business was discussed at this meeting.

Respectfully submitted:

Bill Leifer, Secretary

3/19/05

Facility Report – March 2005— Bill Leifer

Farpoint Observatory has been the focus of frenetic activity in recent weeks to prepare for and complete the installation of the Tombaugh Telescope and get ready for the upcoming Dedication Ceremony.

Two truckloads of gravel were delivered to the front of the observatory, inside and outside the gate, to prepare the road and decrease mud problems. On March 5th, David Costales' friend, Zach, a patrolman to works for the Sheriff's office and keeps and eye on the Observatory, brought his tractor and some gravel spreading and grading equipment and graded the road next to the observatory and leading up to the cement pad inside the gate, and he spread the gravel. He did a terrific job and donated this service to us. Dale Lee, David Costales, and Bill Leifer didn't have to do much work other than watch the man on the tractor. Dan Tibbetts and Brian Martin also came out, but the job was already done, and everyone had left. Thanks to David, Dan, Dale, Brian, and especially Zach. It would have taken literally forever to do that job, otherwise.

The observatory was thoroughly cleaned and old "stuff" removed. Gary drilled holes in the concrete and placed the anchors. Jerry Foote arrived with his trailer and the telescope, and many volunteers worked and risked lives and backs to assemble the telescope from March 9-11. This was a huge job, and the alignment, calibration, testing, and troubleshooting of the new telescope continues up to this writing. This is truly a monumental project, driven and directed by Gary Hug with a lot of late night technical assistance from Dan Tibbetts on the shakedown testing and calibration. Following the construction, the carpet was shampooed again by Bill.

Gary purchased and brought in a new computer table for the South end of the computer room and re-connected all the computers and wiring, which took several hours on March 18. This is a huge improvement in appearance and function.

Bill arranged for Sprint land line telephone service and installation, and trenching of the line to the observatory will occur during the next week. A Panasonic message machine was purchased as an alternative to the more expensive Sprint voice mail service.

SOME PHOTOS OF THE TOMBAUGH BEING INSTALLED:



Jerry Foote (ScopeCraft) anchoring the mirror to the cell.



The mirror is protected while mounting mirror cell to scope.



Note the small clearance between the telescope and the roof.



Collimating the optics.



More collimation.

Here is the Tombaugh Telescope! Now help NEKAAL Dedicate it April 2, 2005.

The dedication ceremony is at 2:00 pm. We need help with the food line and other activities

Everyone is invited to this ceremony. Let friends and relatives know about it.

There is a copy of the two page announcement in the files section of the Yahoo Members group. Print it out and share it with anyone you think would be interested in the dedication.

See you April 2. - Please be there!

April 2005

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1 Last Qtr 	2 Tombaugh Dedication 2:00 pm
3 DST begins	4	5	6	7	8 New  Annular Eclipse	9
10	11	12	13	14	15	16 1st Qtr 
17 Board Meeting FPO	18	19	20	21 Lyrid Meteors	22 Lyrid Meteors	23 Lyrid Meteors
24 Full  Penumbral Eclipse	25	26	27	28 NEKAAL Meeting	29	30

2005 NEKAAL MEMBERSHIP FORM

Please check appropriate membership type:

- ☐ Individual \$30 ☐ Family \$35
☐ Student \$10 for first year, \$15 each succeeding yr

Name:

Address:

City

State:

Zip:

Phone Numbers:

E-mail:

Mail form and check to NEKAAL
PO BOX 951, TOPEKA, KS 66601

FARPOINT CONTRIBUTORS

Help us improve and maintain Farpoint Observatory. A \$50 donation (membership dues not included) gets your name on a plaque on Farpoint's *Wall of Fame*.

- ☐ I am including an extra \$10 for a one year subscription to the Observer

Contributer Name:

Address:

City:

State:

Zip:

Name on Plaque:

- Donation is for ☐ Farpoint operating fund
☐ General fund ☐ Telescope
☐ Education/Outreach

Mail form and check to NEKAAL
PO BOX 951, TOPEKA, KS 66601

Meeting Schedule

NEKAAL meets monthly on the fourth Thursday, January through October, at Washburn's Stoffer Hall. The meetings are at 7:30 pm.

Guests are always welcome to join us for the General Meetings and/or observing at Farpoint.

March General Meeting

Thursday, April 28, 2005, 7:30 pm

Speaker: **Graham Bell:**

History of the Pitt, now Tombaugh Scope

Who to contact:

<u>Meetings, Speakers:</u>	Graham Bell
<u>Farpoint Functions, Scheduling:</u>	Janelle Burgardt
<u>Farpoint Maintenance:</u>	Bill Leifer
<u>Special Presentations, Groups:</u>	Janelle Burgardt
<u>Dues, Donations, Merchandise:</u>	Walter or Nancy Cole
<u>FAST:</u>	Gary Hug or Graham Bell
<u>Web Content</u>	Janelle Burgardt
<u>Observer Articles</u>	Graham Bell
<u>Other Web Issues:</u>	Russell Valentine
<u>General Questions:</u>	Any board member

Graham Bell	256-6281 gebell@mindspring.com
Janelle Burgardt	266-5624 sky_liebe@yahoo.com
Walter Cole	266-4911 w.i.cole@worldnet.att.net
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Jerry Majers	862-8869 jmajers@cox.net
Debbie Roberts	
Patsy Rush	
Dan Tibbets	Ddtfp@aol.com
Russell Valentine	862-5046 russ@coldstonelabs.org

These numbers and email addresses are not to be shared with others. They are to be used by members only!

"The REAL MEETING" Gathering



Please join us for post-meeting eats at Perkins Restaurant, 1720 SW Wana-maker. Some members refer to this as "the real meeting" which follows our general meeting each month.

Open House Dates for 2005

February 11	7:30	August 12	9:00
March 18	7:30	September 10	8:30
April 15	8:30	October 8	8:00
May 13	9:00	November 5	7:30
June 10	9:30		
July 15	9:30		

Club Observing Dates for 2005

January 7-8	July 8-9
February 4-5	August 5-6
March 11-12	September 2-3
April 8-9	Sept 30– Oct 1
May 6-7	October 28-29
June 3-4	December 2-3

Farpoint Observatory

W. Long. 96°00'08.6" Elevation = 406 m
N. Lat. 38°53'24.9" = 1320 Ft.



The NEKAAL OBSERVER

NEKAAL

PO BOX 951

TOPEKA, KS 66601

ADDRESS SERVICE REQUESTED