



# Star Stuff

Ford Amateur Astronomy Club Newsletter

Volume 27, Number 7

July 2017

## Twenty Years Ago on Mars...

By Linda Hermans-Killiam

On July 4, 1997, NASA's Mars Pathfinder landed on the surface of Mars. It landed in an ancient flood plain that is now dry and covered with rocks. Pathfinder's mission was to study the Martian climate, atmosphere and geology. At the same time, the mission was also testing lots of new technologies.

For example, the Pathfinder mission tried a brand-new way of landing on Mars. After speeding into the Martian atmosphere, Pathfinder used a parachute to slow down and drift toward the surface of the Red Planet. Before landing, Pathfinder inflated huge airbags around itself. The spacecraft released its parachute and dropped to the ground, bouncing on its airbags about 15 times. After Pathfinder came to a stop, the airbags deflated.

Before Pathfinder, spacecraft had to use lots of fuel to slow down for a safe landing on another planet. Pathfinder's airbags allowed engineers to use and store less fuel for the landing. This made the mission less expensive. After seeing the successful Pathfinder landing, future missions used this airbag technique, too!

Pathfinder had two parts: a lander that stayed in one place, and a wheeled rover that could move around. The Pathfinder lander had special instruments to study Martian weather. These instruments measured air temperature, pressure and winds. The measurements helped us better understand the climate of Mars.

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## Presidents Article

By Liam Finn

### *Annual Picnic*

On Saturday July 22<sup>nd</sup> we held our annual multi club picnic at Spring Mill Pond. Despite the threat of rain in the forecast the evening went forward without a drop. We had a nice turnout and it was fun to meet with everyone in daylight and socialize rather than meeting on observing nights in the darkness and trying to guess who you are talking to. This event would not be successful without the planning of Doug Bauer who puts in so much time into making this event work each year. Special thanks to George Korody who supplies us with fresh corn each year and also Hayden Barrett who supplied the monster grille.

Thanks also, to all who brought fantastic dishes to pass. Our picnic was a feast of great food and great friends. I look forward to next year's outing.

### *Solar Eclipse*

Less than a month to go and still so much preparation to get done. The final stages of preparation are in play and we are all gearing up to either observe or image the eclipse from various locations along the path of totality.

The largest group of us are heading to Casper Wyoming for Astrocon and the eclipse, while others head south.

Those of us going to Casper are planning on Mike Cedar Park as our primary Observing Location. While it is the primary location we have alternatives and still exploring backup options.

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## Presidents Article

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The general consensus is that when you arrive at your observing city, scope out the options on where you can setup and ensure that your views of the sun is clear from beginning to end of the eclipse. Also check a few alternate locations to ensure they are also suitable.

The day before the eclipse, check the weather forecast and verify the weather conditions. If not looking good for the morning of the eclipse, get in your car and drive somewhere that has a clear forecast. Do not try to move locations the day of the eclipse, the roads will be a nightmare, travel the day before. If you are planning on imaging, setup your equipment the night before and polar align it so you are ready before the next morning.

Have food, water shade sunscreen and something to sit on. It will be a long day in the hot sun so be prepared. Most importantly, have fun and enjoy the show!

## Secretary's Report

By Jessica Edwards

*22 July 2017 – General Meeting*

Member Observations and What's Up

Many clouds hindered observations, but Jupiter and its moons as well as Saturn were visible in the evenings. Sagittarius is in the south this time of year so lots of objects can be found. Venus rises in the morning.

### *Main Talk – Search for Planet Vulcan – Diane Hall*

The planet Mercury had been a problem for astronomers for many years. It seemed no one could accurately predict its motion. It was either too early or too late. One theory for these discrepancies was a planet inside of the orbit of Mercury. The success of locating the planet Neptune using only math made many believe that the planet Vulcan existed. Fleeting glimpses by amateurs and careful calculations by famous mathematicians kept the idea of Vulcan around for many years. In the end, it was Einstein's Theory of General Relativity that solved the problems observed in Mercury's orbit.

## Twenty Years Ago on Mars...

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The lander also had a camera for taking images of the Martian landscape. The lander sent back more than 16,000 pictures of Mars. Its last signal was sent to Earth on Sept. 27, 1997. The Pathfinder lander was renamed the Carl Sagan Memorial Station. Carl Sagan was a well-known astronomer and science educator.

Pathfinder also carried the very first rover to Mars. This remotely-controlled rover was about the size of a microwave oven and was called Sojourner. It was named to honor Sojourner Truth, who fought for African-American and women's rights. Two days after Pathfinder landed, Sojourner rolled onto the surface of Mars. Sojourner gathered data on Martian rocks and soil. The rover also carried cameras. In the three months that Sojourner operated on Mars, the rover took more than 550 photos!

Pathfinder helped us learn how to better design missions to Mars. It gave us valuable new information on the Martian climate and surface. Together, these things helped lay the groundwork for future missions to Mars.

Learn more about the Sojourner rover at the NASA Space Place: <https://spaceplace.nasa.gov/mars-sojourner>



*Caption: The Mars Pathfinder lander took this photo of its small rover, called Sojourner. Here, Sojourner is investigating a rock on Mars. Image credit: NASA/JPL-Caltech*

## A KID SCOPE?

### *Finding a nice telescope for a ten year old*

By Greg Knekleian

I wanted to get a nice telescope for a young beginner. There were four types of telescopes I considered:

1. A refractor spotting scope, which had variable power. Because young people may want to look at terrestrial objects as much as the sky, a spotting scope can be a big hit with them. A zoom eyepiece without other eyepieces to lose is a big plus but most spotting scopes won't look up toward the meridian very well which is where the best astronomy viewing will be. Children often look at the moon and planets and rarely deep space, so spotting scopes are still a pretty good buy but they lack good edge of field performance and the tripods may be flimsy as well.
2. Some kind of 60mm or 70mm refractor, typically these are affordable but the mounts are often not very good at the low end.
3. Some kind of computerized low-end compound telescope. These are more expensive and most have a narrow field of view. Good for planets, but not wide field clusters and a ten year old probably doesn't want to fumble with setup menus and power cords, etc for a goto scope. That's not a good first scope and too costly.
4. A rich field dobsonian, like an astroscan telescope. Good at wide field but not great for planets though portable and almost binocular-like. Without goto or finding objects the child has to navigate by moving the scope themselves, so rich field views are better for those. The Edmund Astroscan used to be a favorite kind of rich field telescope for kids but those are pretty pricey even on the used market and they don't make them anymore. The used market even charges a lot for them. So what is out there? Astroscans are costly even on eBay and the used ones may have dirty optics or other issues.

I picked up an Orion f4 tabletop Dobsonian and decided to put it through its paces. It has a number of pluses and the low price is the first plus. Yes, there are compromises, but with the price at \$109 delivered to my door the biggest plus is cost and decent optics.



### Summary of plus side

- Small tabletop that can be added to a sturdy tripod.
- The simple design is good and it has a dovetail so the scope can be removed, but the dovetail is opposite of the side of a Celestron styled dovetail so you can't use Celestron goto mounts like nexstar mounts with this.
- Orion includes a simple book about astronomy and a chart to find stars and objects.
- Two eyepieces a 10mm and 20mm. These provide 20x and 40x.
- Can use standard and better eyepieces that may improve the image as much as 100 percent from my tests.
- Table top small mount offers convenience and portability,



- Table top dob setting has adjustment knob to vary the pressure the altitude friction setup, which is a nice feature.
- Table top can be attached to a tripod, with a normal camera tripod screw, but you need a very sturdy camera tripod.

### MINUSES

- Finder is adequate, a red dot, but it will require battery replacement from time to time, which is a negative for a child's budget.
- The eyepieces are limited for what it is but for the price, it's still an amazing buy.
- The plus of its small size works against it in the city as that small four inch telescope cannot pull in a lot of light and show the deep sky faint stuff.
- Obviously it is only a wide field four inch telescope.
- The adjustment screws for the secondary mirror are odd and it may be hard to find a wrench to adjust the optics of the secondary.
- It was in pretty good alignment, but my laser alignment tool shows it could use a minor tweak.
- It has a 3-vane spider, which will give six spikes around bright objects, but at this low cost how can one really complain?

I tested it one night on Jupiter and Saturn and could make out the main cloud bands. Additional eyepieces like an old 6mm orthoscopic helped it a bit on planets. I even tried a 5mm eyepiece from Baader planetarium and that held up pretty well but having to have my eyes off the larger eyepiece under streetlights was annoying. A higher-powered eyepiece or 2x Barlow would be good for youngsters wanting to look closer at a planet. The telescope was not perfectly aligned but it was close enough for lower powers to have stars appear to be sharp out to the edge of the field with a good eyepiece like a Televue 32mm plossl eyepiece. A 40 mm Meade plossl made the field of view very wide at 10x; but secondary shadows was annoying with the 40mm with a very small sweet spot. The best way to improve the telescope for a child would be to add better eyepiece or even a variable powered eyepiece like the Lunt Solar Zoom eyepiece. Other than that, they should be set.

Not content to do visual I tried taking test photos with my Point Grey Camera and a laptop. Would the camera reach focus? Shown next are some photos I took, but I used a Point GreyGrasshopper 3 camera and a laptop. Typically, children will not be using a \$1400 webcam and a laptop to take images of the moon. This was more of a personal experiment than something of practical value for beginners. It is definitely not a \$100 Astrograph.



## 2017 Beginner's Nights Calendar

Month	1st Quarter	Beginner's Night	Sunset	Location
April	Monday, April 3rd	<b>Saturday, April 1st</b>	7:58pm	Island Lake
April/May	Tuesday, May 2nd	<b>Saturday, April 29th</b>	8:30pm	Island Lake
		<b>^^Int'l Astronomy Day^^</b>		
June	Thursday, June 1st	<b>Saturday, June 3rd</b>	9:04pm	Island Lake
July	Friday, June 30th	<b>Saturday, July 1st</b>	9:12pm	Island Lake
July II	Sunday, July 30th	<b>Saturday, July 22th</b>	8:54pm	Island Lake (Club Picnic)
August	Tuesday, August 29th	<b>Saturday, August 26th</b>	8:15pm	Island Lake
<b>**Solar Eclipse is on 21st** - Head for totality!</b>				
September	Friday, September 9th	<b>Fri-Sat Sept 29, 30</b>	7:17pm 7:14pm	(AATB / Island Lake)
October	Sunday, October 27th	<b>Saturday, October 28th</b>	6:30pm	Maybury State Park

## Treasurers Report

May 2017

By Mike Bruno

<b>Ford Amateur Astronomy Club</b>		
<b>Balance Sheet</b>		
<b>7/24/2017</b>		
<b>ASSETS</b>		
<b>Checking / Savings</b>		
<b>Checking</b>	\$	322.99
<b>FAAC Savings</b>		
<i>General</i>		2,806.00
<i>Equipment</i>		2,376.87
<i>Scholarship</i>		158.26
<b>Total FAAC Savings</b>		5,341.13
<b>Petty Cash</b>		79.75
<b>Total CD's</b>		3,193.30
<b>Total Checking / Savings</b>		8,937.17
<b>TOTAL ASSETS</b>	\$	8,937.17
<b>TOTAL EQUITY</b>	\$	8,937.17
<b>INCOME</b>		
Membership Dues	\$	1,375.00
AL Dues	\$	37.50
Equipment Fund		75.00
Scholarship Fund		116.00
Merchandise		181.00
Club Events		2,591.63
Miscellaneous		100.00
Interest		4.98
<b>Total Income</b>		4,481.11
<b>EXPENSES</b>		
Merchandise		193.05
Scholarship		300.00
Club Events		3,036.19
Office expense		158.52
<b>Total Expenses</b>		3,687.76
<b>NET INCOME</b>	\$	793.35

## FAAC Equipment Holders Report

By Dennis Salliotte

### FAAC Equipment Report 7/20/17

<u>Item</u>	<u>Currently Held By:</u>	<u>Date Last Verified</u>
<b><u>Telescopes</u></b>		
4" Dobsonian (Harold's donation)	George Korody	1/20/17
<b><u>Presentation Tools</u></b>		
Projector (older)	Jim Frisbie	1/15/17
Projection Screen 8'	Bob MacFarland	7/18/17
Speaker System w/wireless mic	Bob MacFarland	7/18/17
Bullhorn	George Korody	1/20/17
DVD Player	Jim Frisbie	1/15/17
Projection Screen 6'	Mike Dolsen	1/15/17
Projector, ViewSonic	Gordon Hansen	7/18/17
<b><u>Demonstration Tools</u></b>		
Weight On Planets Scale	George Korody	1/20/17
Lunar Phase Kit	Bob MacFarland	7/18/17
100 ft Scale Model Solar System Kit	Bob MacFarland	7/18/17
<b><u>Display Items</u></b>		
Astronomy Event Sign (3' X 6')	Gordon Hansen	7/18/17
PVC Display Board - Folding	Sandra Macika	1/23/17
Banner – Small (24" X 32")	George Korody	1/20/17
Banner – Medium (24" X 72")	Sandra Macika	1/23/17
Banner – Large (32" X 16')	George Korody	1/20/17
Tri-Fold Presentation Boards	Don Klaser	1/26/17
Tri-Fold Poster Board (Early Club Photos)	George Korody	5/25/17
<b><u>Other</u></b>		
Canopy (10' X 10')	Dennis Salliotte	7/20/17
Equipment Etching Tool	Greg Ozimek	4/20/17
Pop Cooler	Hayden Barrett	6/22/17
<b><u>EQUIPMENT KITS</u></b>		
<b><u>CARETAKER</u></b>		
<b><u>Telescopes</u></b>		
TK3 Celstrn 130 Newt Goto mount	Liam Finn	7/17/17

TK4 Clstrn 90 Refrctr w/man mount	Liam Finn	7/17/17
TK5 4 ½ “ Reflector, on Fitz GEM mount	Bob MacFarland	7/18/17
TK6 8” Orion 8XTi Dobsonian	Jed Datema CARETAKERSHIP IS AVAILABLE	3/29/17
TK1 Coronado PST solar scope w/double stack, Meade Autostar Goto mount & tripod and accessories	John McGill	1/15/17
TK7 TPO 8” f/4 Imaging Newtonian Telescope (OTA)	Jim Barnes	1/16/17
<b><u>Binoculars</u></b>		
BK3 15x70 binocs, monopod mount	Bob MacFarland	7/18/17
BK4 20x80 binocs,altaz goto mount	Sandra Macika	1/23/17
BK5 25x70 binocs w/tripod adaptor	Tim Dey	4/20/17
<b><u>Eyeiece Kit</u></b>		
EPK1 Eyepieces, filters & accesories	Liam Finn	7/17/17
<b><u>Other</u></b>		
TA Sky Quality Meter	Syed Saifullah	1/18/17
TA Sky Atlas 2000.0	Tim Dey	4/20/17
TA Orion telescope binoviewer	Liam Finn	7/17/17
<b><u>Lincoln Park Observatory</u></b>		
LPO Celestron binoviewer #93691	Tim Dey	4/20/17
LPO Celestron 2X 1.25” Barlow	Tim Dey	4/20/17
<b><u>Imaging SIG</u></b>		
C1 Celestron NexImage Solar System Imager model #93712	Gordon Hansen	7/18/17
C2 Meade Deep Sky Imager PRO III w/AutoStar Suite	Gordon Hansen	7/18/17
C3 Orion StarShoot Deep Space Video Camera NTSC #52185 w/video capture device #52178	Gordon Hansen	7/18/17
C4 Meade Electronic Eyepiece w/cable to a video monitor, VCR or TV. Pairw#43 AND Meade 3.5” LCD Color Monitor Kit # 07700 Complete (unused). Pair w#34	Gordon Hansen	7/18/17



C5 Orion StarShoot Deep Space Video Camera II #52195 AND Orion StarShoot iPhone Control for Deep Space Video Camera II #52195	Gordon Hansen	7/18/17
C6 Canon 60 DA and accessories	Tim Dey	4/20/17
CA1 Rigel Systems Spectroscope	Gordon Hansen	7/18/17
CA2 Celestron 1.25" to T-Adapter(male thread) Model #93625	Gordon Hansen	7/18/17
CA3 Canon EOS deluxe astrophoto kit FOR Canon bayonet T-thread adapter and variable 1.25" extender	Gordon Hansen	7/18/17
CA4 Orion StarShoot LCD-DVR #58125 2.5" LCD screen	Gordon Hansen	7/18/17
CA5 Celestron Canon EOS T-ring adapter #93419	Gordon Hansen	7/18/17
<b><u>Special Event Use Only- Not Available For Loan Out</u></b>		
TK2 Meade 8" ETX-LS-ACF w/tripod, voice assist, computerized GPS plus MANY (35+) accessories	Tim Dey	4/20/17
BK1 Orion BT-100 binocular telescope w/hard case, Orion VersaGo h.d. man altaz mount w/Vixen dovetail head and Vixen style binocular holder bracket	Ken Anderson	7/17/17
BK2 Zhumell 25x100 binoculars, hard case & Zhumell TRH-16 tripod w/soft fabric bag	Sandra Macika	1/23/17
TAK1 Night Vision Intensification binocular unit	George Korody	1/20/17
Dennis Salliotte equipment@fordastronomyclub.com		

## STAR STUFF

This Newsletter is published eleven times each year by:

FORD AMATEUR ASTRONOMY CLUB P.O. Box 7527 Dearborn MI 48121-7527

PRESIDENT: Liam Finn

VICE PRESIDENT: Tim Dey

SECRETARY: Jessica Edwards

TREASURER: Mike Bruno

WEBMASTER: Greg Ozimek

NEWSLETTER EDITOR: Syed Saifullah

### Club Information:

The Ford Amateur Astronomy Club (FAAC) meets on the fourth Thursday each month, except for the combined November/ December meeting on the first Thursday of December - at Henry Ford College Administration Services and Conference Center in Dearborn. Refer to our website for a map and directions. [www.fordastronomyclub.com](http://www.fordastronomyclub.com)

The FAAC observes at Spring Mill Pond within the Island Lake State Recreation Area near Brighton, Michigan. The club maintains an after-hours permit and observes on Friday and Saturday nights, and nights before holidays, weather permitting.

The FAAC also has use of a private observing site near Gregory Michigan and Lake Erie Metro Park. See the FAAC Yahoo Group\* for more information.

Observing schedules and additional info are available on our website, or via the FAAC Yahoo Group.\* Or call the FAAC Hotline, for info and leave a message, or ask questions: 313-757-2582. You may also send email inquiries to [info@fordastronomyclub.com](mailto:info@fordastronomyclub.com).

Membership in the FAAC is open to anyone with an interest in amateur astronomy. The FAAC is an affiliate of the Ford Employees Recreation Association (F.E.R.A.).

### Membership fees:

Annual - New Members: \$30 (\$15 after July 1)

Annual - Renewal: \$25 (\$30 after January 31)

Membership includes the STAR STUFF newsletter, discounts on magazines, discounts at selected area equipment retailers, and after-hours access to the Island Lake observing site.

Astronomy or Sky & Telescope Magazine Discounts Obtain the required form from the FAAC club treasurer for a \$10 discount.

Send the completed form directly to the respective publisher with your subscriptions request and payment. Do not send any money directly to the FAAC for this.

Star Stuff Newsletter Submissions Your submissions to STAR STUFF are welcome! Send your story and/or images to the editor: [StarStuff@fordastronomyclub.com](mailto:StarStuff@fordastronomyclub.com) Email text or MS Word is fine. STAR STUFF will usually go to press the weekend prior to each general meeting.

Submissions received prior to the 15th can be included in that month's issue.

\* FAAC Members are welcome to join our Ford Astronomy Club Yahoo! Group. Messages photos, files, online discussions.