

# IO - May 2016

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Annual Club Dues \$25  
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EAS is a proud member of:

**The Astronomical League**  
The World's Largest Federation of Amateur Astronomers



## Next Meeting Thursday, May 19th Everything You Ever Wanted to Know About Filters by Oggie Golub

In March and April, new club member Oggie Golub borrowed filters from club members and used a spectrometer to measure their band passes. He compiled his results and will make a presentation at our May 19th meeting, at which he will offer insight into the different brands and classes of nebula and planetary filters from a spectroscopic perspective. He will provide transmission spectra of various brands belonging to the same general class of filters, as well as batch-to-batch reproducibility we can expect of these brands. Additionally, he will talk about how to best apply each filter, with a strong focus on light-pollution reduction during visual use, as well as a short section about filters in astrophotography. This will be a fascinating talk about an aspect of astronomy that can dramatically improve what we see.

At our meetings we also encourage people to bring any new gear or projects they would like to show the rest of the club. The meeting is at 7:00 on Thursday, May 19th at the Science Factory. Come a little early to visit and get a seat before the program starts.

## Next First Quarter Friday: May 13th

Our April 15th star party actually happened! We had clear sky, several telescopes, even more guests eager to look through them, and warm enough weather that we could stick around a while and have some fun. After six clouded-out First Quarter Fridays in a row, it felt great to get back into the swing of things. Our next one will be May 13th, and we hope for good weather then, too.

Our new club-built telescope got first light at this star party, and everyone agreed that it's a great telescope. The optics are excellent, the scope move smoothly, and it has almost no vibration. People were saying "wow" all evening over the view both through the scope and of it. For more on the scope project, see page 4.

First Quarter Fridays are laid-back opportunities to do some observing and promote astronomy at the same time. Mark your calendar and bring your scope to the College Hill Reservoir (24th and Lawrence in Eugene) and share the view with whoever shows up. Here's the schedule through 2016. Star parties start at dusk or 6:00, whichever is later.

May 13 (54% lit)  
August 12 (72% lit)  
November 4 (24% lit)

June 10 (38% lit)  
September 9 (56% lit)  
December 9 (79% lit)

July 8 (23% lit)  
October 7 (39% lit)

## April 21st Meeting Report

At our April 21st meeting, Andy Edelen gave a wonderful talk on the forgotten gems of the spring sky. He eschewed the familiar Messier objects in favor of some lesser-known targets, many of which are just as bright and impressive as the ones Messier made popular but for one reason or another didn't make the list. Among those gems that Andy showed us were the Needle Galaxy in Coma Berenices (NGC 4565), a beautiful edge-on spiral galaxy with a prominent dust lane running through it; The Ghost of Jupiter (NGC 3242), also known as the CBS Nebula for its eerie resemblance to the network logo; The Antenna Galaxies (NGC 4038 and 4039); The Whale and Hockey Stick galaxies (NGC 4631 and 4656); NGC 5634, a small but bright globular cluster in Virgo that's often overlooked because Virgo is so full of galaxies; and dozens more excellent targets for scopes of all sizes. He has posted his slides on Google Drive at:

[https://drive.google.com/open?id=0B\\_zSVJCf89YeYTJaOGwtbE5OdTA](https://drive.google.com/open?id=0B_zSVJCf89YeYTJaOGwtbE5OdTA)

After Andy's talk, Jerry Olton gave a slide show of his trip to Arizona in early March to spend a week observing in the high desert just north of the Mexican border. Clouds followed him down from Oregon, so it was 3,400 miles of driving for only one full night and two partial nights of observing, but Jerry saw some amazing sights while he was there, including a 32" f/2.4 telescope. He also got a good look at Omega Centauri, the biggest globular cluster in the sky, and Centaurus A, an irregular galaxy with a huge dust lane cutting across it. Neither of those objects can be seen from our latitude in Eugene. While he was there, Jerry also ran a Messier marathon and picked up 109 of the possible 110 objects in one night. Jerry's ultimate impression of Arizona was that it was a nice place to visit, but the observing is just as good at Eagle's Ridge and there aren't so many cacti and scorpions to worry about in the dark.

## Bruce Hindrichs Becomes Community Outreach Coordinator

Bruce Hindrichs has accepted the position of Community Outreach Coordinator for our club. He'll be organizing our star parties and other community outreach opportunities. Bruce is the perfect person for the job: he's already deeply involved in outreach and he's enthusiastic and capable.

So, a big Thank You to Bruce!

(Negotiations were difficult. Bruce demanded double our previous coordinator's salary.)

## Earth Day at Veneta Elementary School

Rick Kang and Bruce Hindrichs spent Friday, April 15th promoting astronomy at the Veneta Elementary School's Earth Day science fair. It was a busy time. Bruce writes, "There were six groups of about 50 kids each — one group every 30 minutes. The kids were from Veneta Elementary and several other neighboring elementary schools. They were bused in. Plus, parents and younger siblings were also invited." Bruce showed his "Scale of the Universe" presentation, Rick had his scale model solar system posters on the walls, and the two of them answered questions all afternoon.



### Thank You Storage Junction

Storage Junction has donated the use of a storage unit for us to hold our loaner telescopes when they're not in use. EAS would like to thank Storage Junction for their generosity and support for our group. Please give them a call if you need a storage space, and tell your friends. Storage Junction is located at 93257 Prairie Road (at the intersection of Hwy 99 and Hwy 36, 3 miles south of Junction City) Phone: 541-998-5177

# Another Good Month for Imaging

April didn't give us a whole lot of clear sky, but the few days we had were productive for our club members with cameras and pencils. Bill Basham got several nice deep-sky shots, Bruce Hindrichs got some good Moon shots, Jeff Phillips made a fabulous trio of Jupiter, and Mel Bartels found and sketched the Cone Nebula and Christmas Tree Cluster in Monoceros. Great images, all!



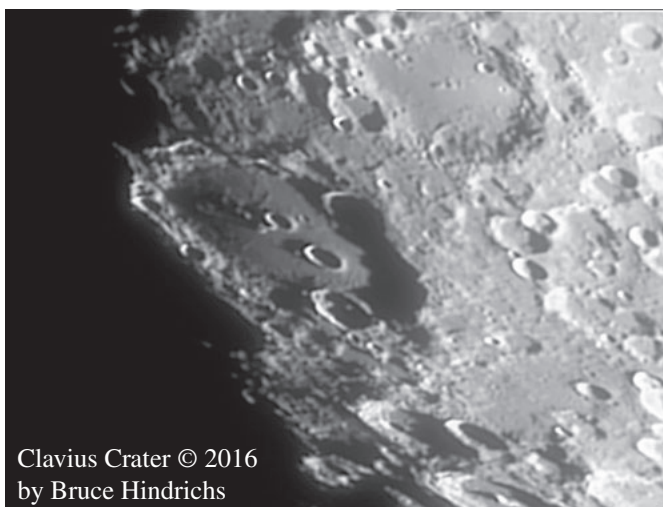
M53 & NGC 5053 © 2016 by Bill Basham



Leo Triplet © 2016 by Bill Basham



Eratosthenes and Appenines © 2016 by Bruce Hindrichs



Clavius Crater © 2016  
by Bruce Hindrichs



Jupiter's motion in about an hour © 2016 by Jeff Phillips



Cone Nebula and Christmas Tree Cluster. The Cone Nebula is notoriously difficult to see! © 2016 by Mel Bartels



# Telescope Building Group Completes Project

The group that has been building the club's new 14.7" telescope met four times in April, finishing the construction of the mirror box, rocker box, dust cover, and ground board, then sanding and painting everything. They painted the outside surfaces with Varathane varnish, which gave it a rich yellow color to match the equatorial platform, and painted the inside surfaces flat black. They couldn't assemble it on the final day (April 24th) because the paint was still wet, but they declared it done and had a christening ceremony and drank a toast to their success.

This has been an amazing experience for everyone involved. They had a great time every Sunday afternoon and they learned a lot about how to build a big Dobsonian telescope. And the scope works beautifully! They took it (unpainted) to the First Quarter Friday star party on April 15th and it was a big hit with everyone there.

One of the best features of the workshops was the food. Ingrid, Andy, and Pam provided the group with



Ingrid, Kathy, Andy, and Pam sanding



One of many feasts



Randy, Jerry, Andy, and Pam painting



Kathy painting the inside of the secondary cage



hearty meals and brownies nearly every weekend, so they ate like royalty while working on the telescope.

A hearty thank-you to everyone who donated their time and effort to this project, and a HUGE thank-you to Sam Pitts, who ground the mirror, and Jim Jackson, who donated the mirror and equatorial platform that got us started in the first place. This scope will be a great addition to the club's resources, all because of the generosity of so many of us.



Randy and Pam painting the rocker box



Mercedes and Cheryl painting the mirror box



Joe and Galen painting the trusses



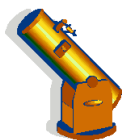
Jerry christening the scope



The group toasts the telescope's completion



The finished telescope after the paint dried (minus shroud)



# Observing in May

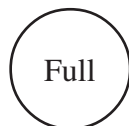


New

1st Q



Full



Last Q



May 6, 12:29 PM	May 13, 10:02 AM	May 21, 2:14 PM	May 29, 5:12 AM
Mercury lost in Sun	Mercury lost in Sun	Mercury Rise: 5:09 AM	Mercury Rise: 4:47 AM
Venus Rise: 5:42 AM	Venus Rise: 5:36 AM	Venus lost in Sun	Venus lost in Sun
Mars Rise: 9:56 PM	Mars Rise: 9:20 PM	Mars Set: 5:46 AM	Mars Set: 5:04 AM
Jupiter Set: 3:48 AM	Jupiter Set: 3:20 AM	Jupiter Set: 2:49 AM	Jupiter Set: 2:18 AM
Saturn Rise: 10:29 PM	Saturn Rise: 9:59 PM	Saturn Rise: 9:25 PM	Saturn Rise: 8:51 PM
Uranus Rise: 5:01 AM	Uranus Rise: 4:34 AM	Uranus Rise: 4:04 AM	Uranus Rise: 3:33 AM
Neptune Rise: 3:35 AM	Neptune Rise: 3:08 AM	Neptune Rise: 2:37 AM	Neptune Rise: 2:05 AM
Pluto Rise: 00:52 AM	Pluto Rise: 00:24 AM	Pluto Rise: 11:48 PM	Pluto Rise: 11:16 PM

All times Pacific Daylight Time (March 13 – Nov. 5, 2016 = UT -7 hours) or Pacific Standard Time (November 6, 2016 – March 12, 2017 = UT -8 hours)

Date	Moonrise	Moonset	Twilight Begin	Sunrise	Sunset	Twilight End
5/1/2016	03:11	14:18	04:08	06:03	20:16	22:12
5/2/2016	03:47	15:28	04:06	06:02	20:18	22:14
5/3/2016	04:21	16:41	04:04	06:00	20:19	22:16
5/4/2016	04:57	17:56	04:02	05:59	20:20	22:17
5/5/2016	05:34	19:12	04:00	05:58	20:21	22:19
5/6/2016	06:14	20:27	03:58	05:56	20:22	22:21
5/7/2016	06:58	21:39	03:56	05:55	20:24	22:23
5/8/2016	07:48	22:46	03:54	05:54	20:25	22:25
5/9/2016	08:42	23:46	03:52	05:52	20:26	22:27
5/10/2016	09:41		03:50	05:51	20:27	22:29
5/11/2016	10:43	00:37	03:48	05:50	20:28	22:31
5/12/2016	11:45	01:21	03:46	05:49	20:29	22:33
5/13/2016	12:46	01:58	03:44	05:48	20:30	22:35
5/14/2016	13:46	02:32	03:43	05:47	20:32	22:36
5/15/2016	14:45	03:01	03:41	05:46	20:33	22:38
5/16/2016	15:44	03:29	03:39	05:45	20:34	22:40
5/17/2016	16:41	03:56	03:37	05:44	20:35	22:42
5/18/2016	17:39	04:24	03:35	05:43	20:36	22:44
5/19/2016	18:37	04:52	03:33	05:42	20:37	22:46
5/20/2016	19:34	05:23	03:32	05:41	20:38	22:48
5/21/2016	20:31	05:57	03:30	05:40	20:39	22:49
5/22/2016	21:26	06:35	03:28	05:39	20:40	22:51
5/23/2016	22:19	07:18	03:27	05:38	20:41	22:53
5/24/2016	23:08	08:06	03:25	05:37	20:42	22:55
5/25/2016	23:54	09:00	03:24	05:36	20:43	22:57
5/26/2016		09:58	03:22	05:36	20:44	22:58
5/27/2016	00:35	11:01	03:21	05:35	20:45	23:00
5/28/2016	01:13	12:06	03:19	05:34	20:46	23:02
5/29/2016	01:48	13:13	03:18	05:34	20:47	23:03
5/30/2016	02:21	14:23	03:17	05:33	20:47	23:05
5/31/2016	02:55	15:35	03:15	05:33	20:48	23:06

All times are for Eugene, Oregon Latitude 44° 3' Longitude 123° 06'

## Items of Interest This Month

Mars at its best this month.  
 Saturn gets good toward end of month.  
 Io & Europa pass one another 9:10 PM  
 5/5 Eta Aquariid meteor shower peaks. (Debris from Comet Halley.)  
 5/6 Double shadow transit (Callisto, Io) 9:39 - 10:42 PM. Callisto shadows are rare.  
**5/9 Mercury transit sunrise to 11:42 AM**  
 Europa & Ganymede pass 9:25 PM  
 5/10 Io & Europa pass 11:25 PM  
 5/12 Io & Ganymede pass 10:50 PM  
**5/13 First Quarter Friday Star Party.** Moon near Regulus in afternoon/evening. Good chance to see a star during the day. Io transit 10:22 PM - 12:38 AM, shadow transit 11:34 PM - 1:48 AM.  
 5/15 Io & Ganymede pass 11:30 PM  
 5/17 Moon occults Theta Virginis 11:12 PM  
 5/19 Ganymede transit 7:37 - 10:57 PM. Shadow transit 12:39 - 3:50 AM  
 5/22 Mars at opposition. Io shadow transit 7:57 - 10:12 PM. Io ends transit 8:58 PM.  
 5/24 Europa shadow transit 8:56 - 11:41 PM  
 5/29 Io shadow transit 9:52 PM - 12:07 AM  
 5/30 Mars closest to Earth, magnitude -2.1. Diameter equals Saturn's (minus rings).  
 5/31 Europa shadow transit 11:33 PM - 2:17 AM