

# IO - August 2016

Eugene Astronomical Society  
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, August 18th The Upcoming Eclipse: Where to View It by Mel Bartels, Jerry Olton, and Mike Smith

This month's meeting will continue our discussion of the August 2017 eclipse, this time focusing on where to view it from. Eugene is south of the path of totality, so we'll have to travel to see it. Where should we go? Where is most likely to be a crowded nightmare of gridlocked cars? Can a person still get a hotel room anywhere within a hundred miles of the path of totality?

People all over the world are already making plans, and as many as a million of them will descend on Oregon. Don't think that because you live close to the path you can just jump in your car and drive north on eclipse day; you'll find the roads packed and likely not moving at all. Plan ahead to ensure you'll be in the path when the eclipse sweeps past. Join us on the 18th for an informal discussion of potential observing sites and strategies for making sure you have a good time.

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, August 18th at the Science Factory. Come a little early to visit and get a seat before the program starts.

## New Editor for *Io* Starting Next Month

Jerry Olton has been editing the *Io* for several years. It's time for a change and Andy Edelen has volunteered to take over for a while. Andy was newsletter editor (as well as president) for the astronomy club in Carbondale, Illinois, so he brings a lot of experience to the job. Thanks, Andy, for taking it on!

## Next First Quarter Friday: August 12th

Our July 8th star party was cancelled due to rain, and so was our Saturday backup. It has been a rotten year for First Quarter Fridays! With any luck, August's will be clear.

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. (About 8:45 this month.)

August 12 (72% lit)  
November 4 (24% lit)

September 9 (56% lit)  
December 9 (79% lit)

October 7 (39% lit)

# July 21st Meeting Report

## The Great Eclipse of 2017

At our July 21st meeting, Jerry Olton, Mel Bartels, and Mike Smith talked about the total solar eclipse that will pass through Oregon on August 21st of next year. This was the first part of a two-part discussion and focused on what to expect; next month we'll talk about where to observe it from.

One thing to expect is crowds. Officials anticipate upward of a million extra people along that narrow strip of totality. Highways will be jammed the day of the eclipse, and quite possibly for days beforehand.

That said, it behooves anyone who can travel to go see it. Total solar eclipses are rare and wonderful events, one of the most vividly astounding demonstrations of solar system dynamics a person can see, and you don't need any equipment at all to see it. A pair of solar shades will enhance the experience, and a solar telescope will enhance it even more, but that's all just extra. Simply being in the path of totality and watching the Moon slip between you and the Sun is a memorable experience. During totality you can see the Sun's corona, which shines with the brightness of a full Moon, and you can see stars and planets in the sky while the landscape only a few miles away is still sunlit. This is a don't-miss experience.

Eugene will only get a partial eclipse, so you'll want to travel north into the path of totality. Come to our August 18th meeting for information on where is likely to be a good spot to observe it from.

## Call for Photos of Bad (and Good) Lighting

At our September meeting, guest speaker David Ingram of the International Dark Sky Association will talk to us about light pollution. Rick Kang, who has been coordinating this event, writes: "As part of his talk, David has asked us to take and submit images of bad (glary, unshielded, unsafe, wasted) lighting from sites around the Eugene-Springfield metro area for discussion at the September meeting. He's also encouraging stories about successful or unsuccessful challenges to correcting and improving lighting locally. You can email your images/info directly to David, and/or to me. We'd like the meeting to be a problem solving session of how best to deal with improving lighting, win-win situations. If you have other ideas/topics, don't hesitate to submit them to David. Thanks!"

Rick's email is: epoguy (at) gmail.com

David's email is: ingramdw (at) hotmail.com



Bad lighting in a city park



## 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

# STEMFEST Report

## by Rick Kang

Bob Andersen, Richard Boyd and his wife Cathy, Mike Curtin, Janine Coshow, Andy Edelen and his wife Cheryl Ernst, Steve Frankel and his wife Tanja Petal, Bruce Hindrichs, John Loper and his wife Trish, Maia Morgan, Jim Murray, Jeff Phillips and his wife Mary Lou, Wes Reynolds, Shade Rose, Mike Smith, and I hosted about 400 visitors again at this year's STEM Festival at the Lane County Fair the 3 days of July 22-24. As with last year, at least 60 percent of our audience were children, most of them highly curious about planets and stars. Our workload was fairly evenly distributed over time each of the three days. We never experienced major bunching of visitors this time, and had several idle intervals so had ample time to spend with each of our guests. Almost everyone took a peek at Pluto posted on the far wall through the club's 4.5" Dob, and a lot of our visitors viewed sunspots and/or prominences outdoors through scopes set up by Richard, Andy and Cheryl, and Mike Smith. We brought 200 flyers about the upcoming Dexter event and gave out the last flyer just before we closed our display Sunday afternoon. The various activities/mini lessons we offered were fairly well attended and we had quite a few questions for the "ask the Astronomer" feature.

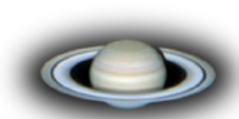
One somewhat amusing incident was a gentleman who approached us with a cell phone image of the Moon with a bright dot near to it and a smudge of light opposite the Moon across the central axis of the image, asking if we knew what the dot and smudge might be. We used Stellarium to ascertain that the dot was Jupiter, and our best guess about the smudge was a reflection of the bright Moon within the camera

lens, unfortunately dashing his hopes that he'd imaged a UFO!

Thanks to everyone who helped out with this event!



The setup inside Wheeler Pavilion



Jeff Phillips at the information table



Richard Boyd (right) conducts solar viewing outside



## Dark-Sky Star Party Report

Our eighth annual Dark Sky Star Party at Dexter State Park on July 30th was a huge success. It was probably our most well-attended star party yet, with over 25 telescopes present and 125-150 people there to view through them. Most of the scopes had lines behind them all night long.

We had plenty of volunteers for the welcome table. Rick Kang and Cheryl Ernst spearheaded the effort, with help from Andy Edelen, Bob Andersen, Jim Murray, Shade Rose, and Wes Reynolds. They distributed star maps and information about our club, loaned out red flashlights (all but one came back!), put red filters on phones and flashlights, answered questions, and generally made things go smoothly.

Our telescope giveaway went well, too. We handed out numbered tickets to everyone between the ages of 8 and 18 (inclusive), then club president Diane Martin drew the winner and announced the number slowly, digit-by-digit to growing suspense. The winner, Kate Paskett, turned out to be the grand-



Dan and Carol Nielson and their granddaughters Becca, Natalie, and Kate Paskett



Diane and Ken Martin read the winning ticket number daughter of one of our club members, Dan Nielson. Kate and her sister, Natalie, were very excited. Dan writes:

A big thank you for all who helped and participated in the Dexter Star Party. I and my granddaughters thoroughly enjoyed it.

Ten year old Natalie and twelve year old Kate LOVE astronomy. They are budding amateurs and we have had many discussions and sessions about all things astronomy. Natalie is the one who has been

saving her money to buy a telescope. Her parents have been planning on giving her one at Christmas and had asked me for suggestions on which one. I had previously sought the members' recommendations and agreed totally with the Orion 8" Dobsonian as a great first (and after) scope, so that was the plan. The girls were SO excited about this Dexter Star Party and the scope give-away was just a bonus. Their expectations for winning were low, but their hopes were high. You can't imagine the joy in Kate and Natalie both when Kate won the scope; the very scope we had planned on giving Natalie. It's all good with Natalie however; turns out they had made a pact that if one of them won, they would share as if they both won — and I know they will. They LOVE the scope and can't stop thanking me for taking them. I pass on that thanks to you all, for being good people who do things like this to encourage and support our next generation of amateur and sometimes professional astronomers.

Dark skies and great seeing to all!

Dan



Randy Beiderwell with the club's new 14.7" scope

brought their own scopes and showed people the view through them, and we had photographers who showed people their photos right on the spot, too. Nature even provided an exploding meteor shortly after we started.

The crowd thinned out around midnight, but some die-hards stayed well beyond 1:30. It was hard to stop on such a perfect night. Many thanks to everyone who helped make it so!

This is exactly the sort of result we hope for when we give away a telescope. Thank you, Dan, for encouraging your granddaughters' interest in astronomy and for bringing them to the star party.

Our club's new 14.7" telescope was also a big hit, with a line stretching out behind it all night long. Randy Beiderwell set it up and showed people the sights through it, and everyone loved the view. Randy reports: "Once dark I went to one of my favorites to share, M13, and immediately had a line that lasted for well over an hour of folks a dozen deep or more waiting for their turn."

Andy Edelen brought the club's 18" scope, so we had both of our big dobs in play. Other scopes ranged from small refractors to big reflectors and everything inbetween. We had several guests who

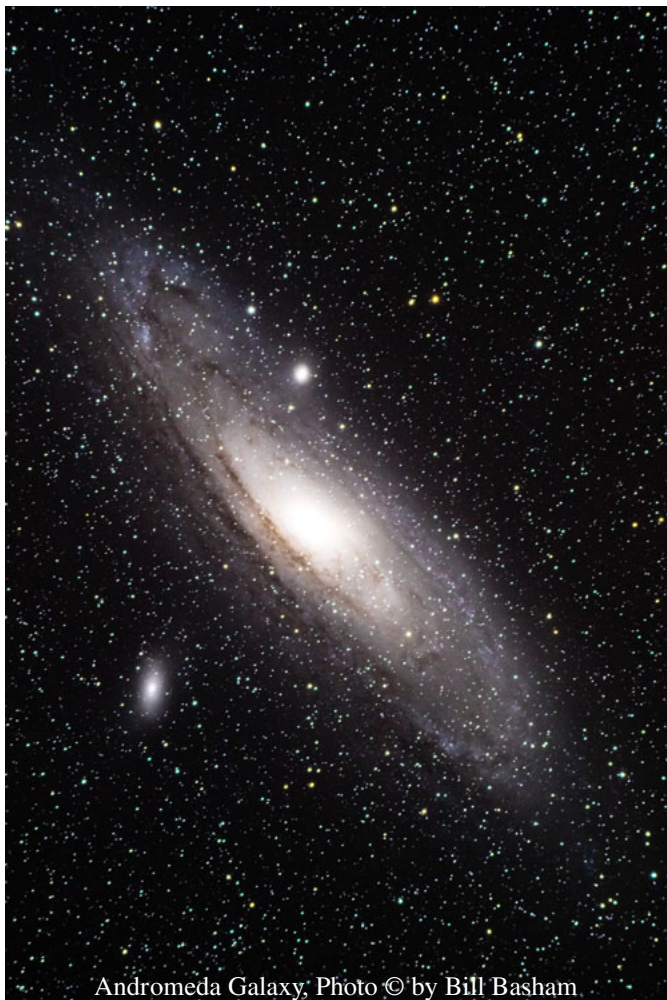
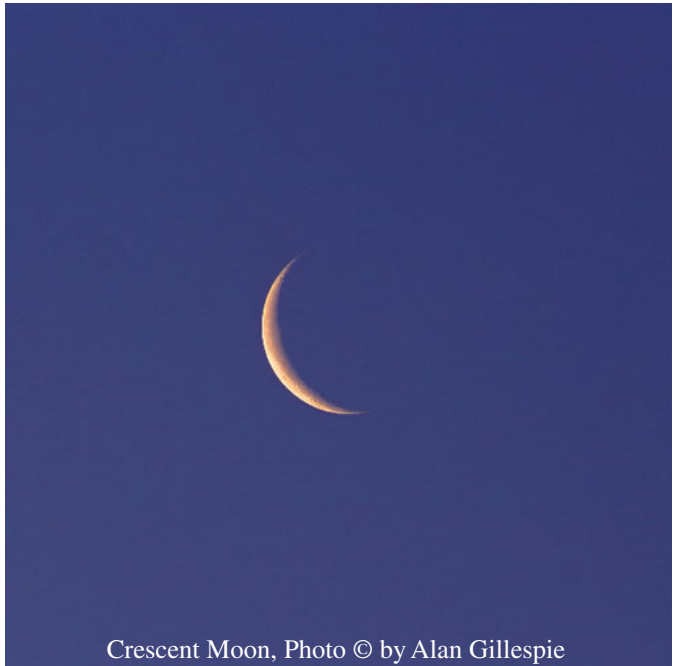


Andy Edelen and Ken Martin with the club's 18" scope

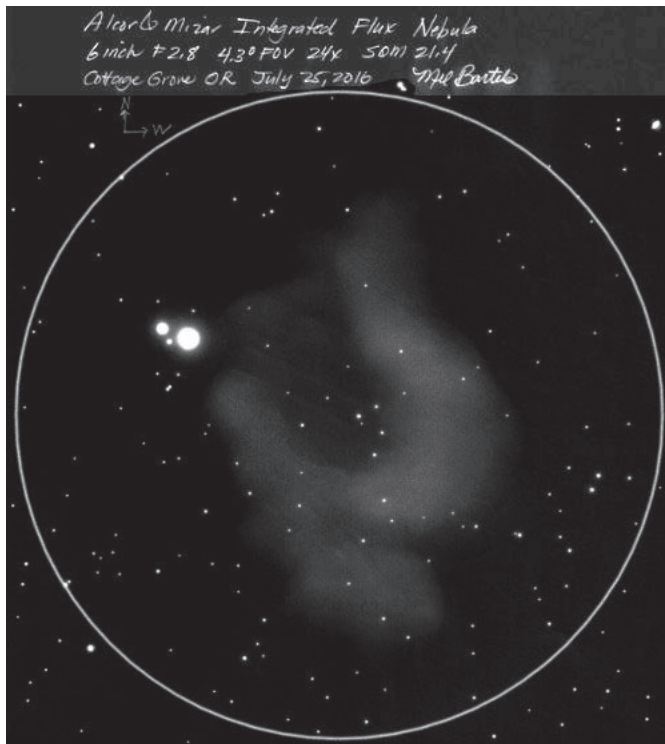
# July Images

Once again EAS members were busy photographing and sketching the cosmos whenever the sky cleared. Below are two images from Alan Gillespie and two from Bill Basham.

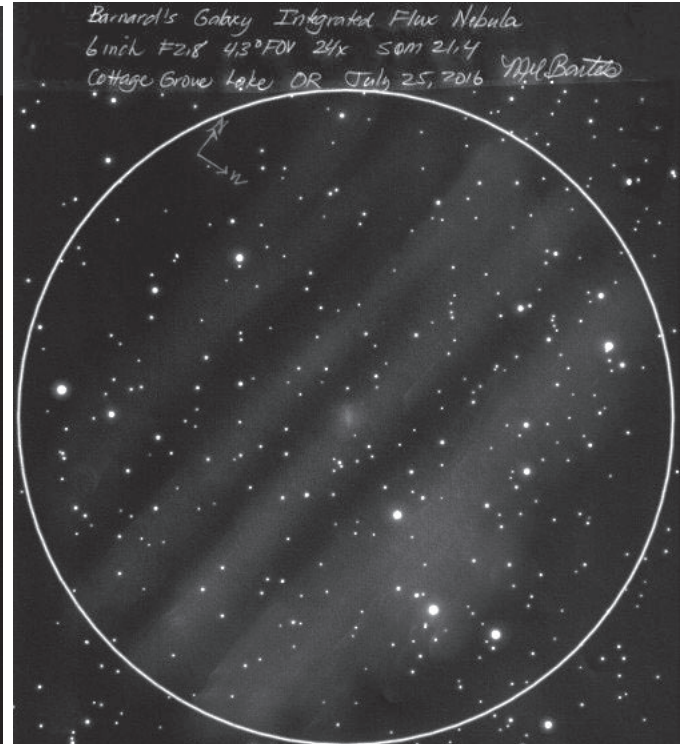
Mel Bartels keeps finding Intergalactic Flux Nebulae all over the sky. July has been a banner



month for him with nearly 20 discoveries in various parts of the sky. We reproduce just two of them here, but they're all beautiful. The one near Mizar is reminiscent of the Swan Nebula, and the one around Barnard's Galaxy looks like the opening sequence of the original *Star Wars* movie. Way cool, Mel!



IFN near Mizar and Alcor, Sketch © by Mel Bartels



Barnard's Galaxy IFN, Sketch © by Mel Bartels

## EAS Members Address Alt-Az Conference

EAS members Mel Bartels and Jerry Olton were invited to participate in the 10th annual Alt-Az Initiative conference in Portland over the weekend of July 23rd and 24th. The Alt-Az conference is a group of telescope makers dedicated to the development of meter-class telescopes for amateur astronomers. This is cutting-edge stuff, quite literally: the conference is held in a machine shop.

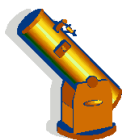
Mel spoke about his recent observations of the Intergalactic Flux Nebula, and Jerry spoke about his seat-of-the-pants approach to engineering, using our club's recent equatorial platform workshop as an example. Both talks were well received and sparked a lot of discussion afterward.



Mel talks about his IFN discoveries



Jerry talks about seat-of-the-pants engineering



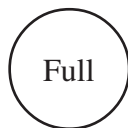
# Observing in August



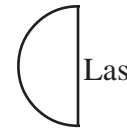
1st Q



Full



Last Q



Aug 2, 1:44 PM	Aug 10, 11:21 AM	Aug 18, 2:26 AM	Aug 24, 8:41 PM
Mercury Set: 9:34 PM	Mercury Set: 9:20 PM	Mercury Set: 8:59 PM	Mercury Set: 8:38 PM
Venus Set: 9:21 PM	Venus Set: 9:13 PM	Venus Set: 9:02 PM	Venus Set: 8:54 PM
Mars Set: 00:42 AM	Mars Set: 00:21 AM	Mars Set: 00:02 AM	Mars Set: 11:47 PM
Jupiter Set: 10:16 PM	Jupiter Set: 9:48 PM	Jupiter Set: 9:20 PM	Jupiter Set: 8:59 PM
Saturn Set: 1:41 AM	Saturn Set: 1:09 AM	Saturn Set: 00:37 AM	Saturn Set: 00:14 AM
Uranus Rise: 11:17 PM	Uranus Rise: 10:45 PM	Uranus Rise: 10:14 PM	Uranus Rise: 9:50 PM
Neptune Rise: 9:45 PM	Neptune Rise: 9:13 PM	Neptune Rise: 8:41 PM	Neptune Rise: 8:17 PM
Pluto Set: 4:09 AM	Pluto Set: 3:37 AM	Pluto Set: 3:04 AM	Pluto Set: 2:40 AM

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

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

## Items of Interest This Month

### 8/3 - 8/7 Oregon Star Party

8/4 Good night to find Enceladus, one of Saturn's more difficult moons (12th magnitude).

8/5 Jupiter near crescent Moon at sunset.

8/6 Another good night for Enceladus

8/11 -8/12 Peak of Perseid meteor shower (supposed to be strong this year).

### 8/12 First Quarter Friday Star Party.

8/16 Mercury at greatest eastern elongation (visible low in the west after sunset).

8/19 Another good night for Enceladus

8/23-24 Saturn, Mars, and Antares line up

8/25 Moon occults Aldebaran 10:26 AM.

Reappearance 10:54 AM. May be possible to see Aldebaran by day.

8/27 Venus and Jupiter within half a degree all day. (Closest approach = 4 arc-minutes at 3:30 PM.) Great chance to find both planets by day. Look 22 degrees east of the Sun.

8/30 Another good night for Enceladus

