

ON THE HORIZON



JANUARY 2015



Supermassive black holes at the cores of galaxies blast out radiation and ultra-fast winds, as illustrated in this artist's conception. NASA's NuSTAR and ESA's XMM-Newton telescopes show that these winds, containing highly ionized atoms, blow in a nearly spherical fashion.

NASA's Nuclear Spectroscopic Telescope Array (NuSTAR) and ESA's (European Space Agency) XMM-Newton telescope are showing that fierce winds from a supermassive black hole blow outward in all directions -- a phenomenon that had been suspected, but difficult to prove until now.

This discovery has given astronomers their first opportunity to measure the strength of these ultra-fast winds and prove they are powerful enough to inhibit the host galaxy's ability to make new stars.

We know black holes in the centers of galaxies can feed on matter, and this process can produce winds. This is thought to regulate the growth of the galaxies," said Fiona Harrison of the California Institute of Technology (Caltech) in Pasadena, California. Harrison is the principal investigator of NuSTAR and a co-author on a new paper about these results appearing in the journal *Science*. "Knowing the speed, shape and size of the winds, we can now figure out how powerful they are."

Supermassive black holes blast matter into their host galaxies, with X-ray-emitting winds traveling at up to one-third the speed of light. In the new study, astronomers determined PDS 456, an extremely bright black hole known as a quasar more than 2 billion light-years away, sustains winds that carry more energy every second than is emitted by more than a trillion suns.

"Now we know quasar winds significantly contribute to mass loss in a galaxy, driving out its supply of gas, which is fuel for star formation," said the study's lead author Emanuele Nardini of Keele University in England

NuSTAR and XMM-Newton simultaneously observed PDS 456 on five separate occasions in 2013 and 2014. The space telescopes complement each other by observing different

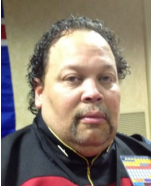
parts of the X-ray light spectrum: XMM-Newton views low-energy and NuSTAR views high-energy.

Previous XMM-Newton observations had identified black hole winds blowing toward us, but could not determine whether the winds also blew in all directions. XMM-Newton had detected iron atoms, which are carried by the winds along with other matter, only directly in front of the black hole, where they block X-rays. Combining higher-energy X-ray data from NuSTAR with observations from XMM-Newton, scientists were able to find signatures of iron scattered from the sides, proving the winds emanate from the black hole not in a beam, but in a nearly spherical fashion.

"This is a great example of the synergy between XMM-Newton and NuSTAR," said Norbert Schartel, XMM-Newton project scientist at ESA. "The complementarity of

Inside this issue:

Captains Log	2
Flight Control Log	3
Black hole winds (cont.)*	3
Engineers Log	4
Trek News	5
Star Wars News	7
Horizon Events	9



Captains log: Vice Admiral Eddie Allen III

The big news of January is our member Phillip Allen and a very strange chain of medical events. If you remember he had a small stroke in October and they found a hole in his heart. Also he was to have surgery on the 29th of December to repair the hole in his heart.

The surgery to repair the hole was successful but also netted the discovery of a couple of life threatening clots. He was placed on blood thinners and the clots were removed. He was also monitored for more clots which were being caused by the hole that he had in his heart. With the heart repairs and the blood thinners that problem has been removed. He is healing from the heart surgery well.

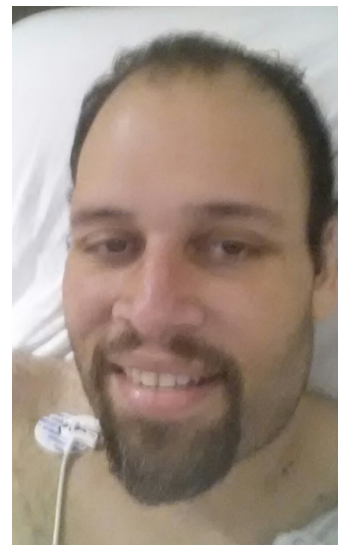
I wish that was the end of it. While recovering from this surgery his GI track exhibited the normal slow down due to the pain medication but he also started having food come back up. A lot of testing later, they discovered Diverticulitis and had to remove a foot of his colon.

It's strange but, the stroke turned out to be a good thing. It is also good that the stroke came first as the colon surgery first would have triggered a massive stroke.

The Allen family's month has been spent visiting Phillip and sitting through his surgeries. I am only sorry that we missed our New Year's Party, although I would like to see us go back to our pre-Christmas holiday party. The Horizon had a Christmas party that became the Region 12 Christmas party and that forced us to start having a New Year's party. Due to weather concerns we seem to miss our New Year's party every other year. Late November seems to be more stable. Just a thought...

End Log

The first photo is a day after the last surgery and the second one is after all the tubes were out.





Flight Log Commander Rhonda Allen

Out with the old, in with the new. A brand new year full of all kinds of possibilities. What goals will we set for ourselves this year and how long will it take us to break the promises we've made with ourselves to eat healthier and live a better life? This year I will read at least one book a month.

I will try to use what I have before I make any new purchases, as we rarely need new things, we just want them.

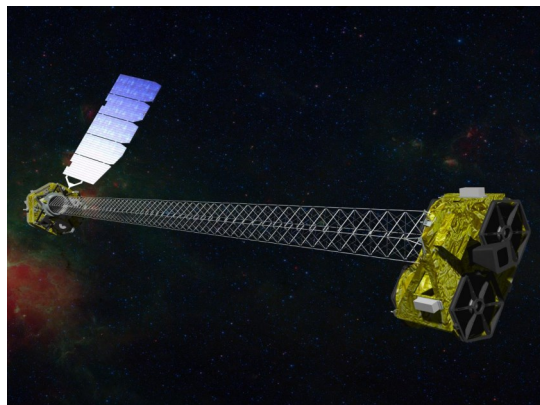
As a person whose day revolves around food, I'll make an effort to not let the pounds pile up by walking on the treadmill and doing Zumba. I'll let you know my progress.

Well I wish you all a Happy New Year and don't be too hard on yourselves, we still have the whole year ahead of us.

End Log

Black hole (cont.)

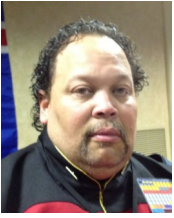
these two X-ray observatories is enabling us to unveil previously hidden details about the powerful side of the universe."



NASA's NuSTAR telescope, launched in June 2012, observed the high-energy portion of the X-ray light spectrum emitted by the supermassive blackhole dubbed PDS 456.



ESA's XMM-Newton Telescope observed the low-energy portion of the X-ray light spectrum emitted by PDS 456.



Engineering log: Vice Admiral Eddie Allen III

I would like to report on our annual bowling tournament. The winner was not a member of Starfleet. The highest Starfleet bowler was Rhonda Allen. There is a rumor that the challenge she has with Jim Herring is still open. I believe Jim is afraid of her prowess now... Congratulations to all of our bowlers and to numbers two and three, Cindy Foley and David Williams.

There was not a lot of other items to report on except that several of us went to see some of the new movies: American Sniper, Selma, and Taken 3. All three were worth the trip. The only one that was a ship's calendar function was the movie: American Sniper. That was a good movie, but I found Selma the best of the three.

End Log

Trek News

- ◇ It is the 20th anniversary of Voyager.
- ◇ Do you remember the El Capitan climb that Kirk made in ST V? Two climbers have actually made that climb in 18 days and nights. They are the first to do this and they are: Tommy Caldwell and Kevin Jorgenson on January 14th.



Trek News

- ◇ The Simpsons did ST in their credits on January 5th.



- ◇ The new ST comics that are coming out in April are: #44 Five Year Mission and Star Trek Planet of the Apes # 5.
- ◇ George Takei will appear on “Wits” the public radio show.
- ◇ Shatner will lend his voice to the British space series, “The Clangers.”
- ◇ Patrick Stewart is making the rounds, Kimmel Live in a skit and on Conan
- ◇ Colm Meaney is joining the SyFy miniseries, “Childhood’s End.” <http://deadline.com/2015/01/colm-meaney-charlotte-nicdao-cast-childhoods-end-miniseries-syfy-1201342058/>
- ◇ Benedict Cumberbatch has been nominated for Leading Actor by the Academy and he and his fiancée’ Sophie Hunter are also expecting an addition to their family sometime this year.
- ◇ Wil Wheaton and George Takei will voice “Miles from Tomorrowland” characters. <http://www.trektoday.com/content/page/2/>
- ◇ The release list of ST books for 2015 is as follows:
 - *The Missing*. **Una McCormack**. DS9/TNG. January
 - *Takedown*. **John Jackson Miller**. TNG. February
 - *Savage Trade*. **Tony Daniel**. TOS. March
 - *Shadow of the Machine*. ebook. **Scott Harrison**. TOS. March
 - *Rise of the Federation: Uncertain Logic*. **Christopher L. Bennett**. Enterprise. April

Star Trek News (cont.)

- *Crisis of Consciousness*. **Dave Galanter**. TOS. May
- *Armageddon's Arrow*. **Dayton Ward**. TNG. June.
- *Sacraments of Fire*. **David R. George III**. DS9. July
- *Return #1 (New Frontier)*. ebook. **Peter David**. TNG. July.
- *Seekers #3: Long Shot*. **David Mack**. TOS. August
- *Return #2 (New Frontier)*. ebook. **Peter David**. TNG. August.
- *Star Trek: The Next Generation – Warped, An Engaging Guide to the Never-Aired 8th Season*. **Mike McMahan**. TNG. August.
- *Atonement*. **Kirsten Beyer**. Voyager. September
- *Return #2 (New Frontier)*. ebook. **Peter David**. TNG. September
- *The Complete Costumes: Five Decades of Fashion From the Final Frontier*. **Paula M. Block** and **Terry J. Erdmann**. September.
- *The Autobiography of James T. Kirk*. **David Goodman**. TOS. September.
- *Sight Unseen (Titan)*. **James Swallow**. TNG. October.
- *Seekers #4*. **Dayton Ward** and **Kevin Dilmore**. TOS. November
- *Child of Two Worlds*. **Greg Cox**. TOS. December.

- ◇ Klingon D4 class Bird of Prey to be released as part of the Official Starships Collection.



- ◇ Jeri Ryan will be in NCIS as one of Gibb's former wives.
- ◇ Joan Collins has been knighted and is Dame Joan Collins.
- ◇ Alice Eve (Carol Marcus) is now married to Alex Cowper-Smith.
- ◇ Zoe Saldana announced she had twins, 2 boys.

Star Wars News

TeePublic has released Pie Eyes T shirts:



And is discounting others...



Or how about Darth Vader shirts .



Detention Block patches available:



If you need a travel buddy for Anaheim 2015 celebration (Apr 16-19) <http://bit.ly/swcanahemtravelform> or if you are just interested in information about the celebration <http://www.starwarscelebration.com/>

Droidsweed by Webbot15 T shirt available:



Star Wars News

The casting call is out for the SW standalone film Star Wars (Untitled) with Rooney Mara (Dragon Tattoo star) testing.

About 10 classic SW games have been re-released so if you are a gamer check for the games of old out there (includes: X-Wing vs Tie Fighter, X-Wing Alliance, Galactic Battlegrounds Saga, Battlefront II, Dark Forces and more).

They have officially run the first SW half marathon at Disney: <http://www.rundisney.com/star-wars-half-marathon/>

Star Wars # 1 Featurette has been released by Marvel. It's been 30 years since Marvel had the comic series.

Lucas' vision for the "Force Awakens" movie: http://www.theforce.net/story/front/George_Lucas_Comments_Briefly_On_His_Original_Plan_For_Episode_VII_161936.asp

Billy Dee Williams will play Lando in the next episode of Star Wars Rebels (animated).

Shirts abound. ShirtPunch:



Or Busted Tees:



Star Wars Detours (animated) is scheduled for a May release.

Limited Etsy edition:



Khan Bonfils (Jedi Master Saesee, Ep 1) has passed away.
The Force Awakens



Horizon Events in the making

Dec 31	Mission	New Years Eve at CO's house
January 1	Mission	New Year's breakfast at The Egg and I
January 3	Mission	New Years Annual Dinner at Buckingham's
January 24	Mission	Monthly Meeting
February 28	Mission	Monthly Meeting Jose Jalapenos