



Mid-Hudson Astronomical Association

May, 2017

Website: www.midhudsonastro.org

Yahoo Group: MHAstro

President : Willie Yee
Secretary: Jim Rockrohr
Newsletter Editor: Rick Versace
Publicity: Paul Chauvet
Speakers: Paul Granich

Vice President: Jack Chastain
Treasurer: Karen Tulchinsky
Membership Coordinator: Caryn Sobel
Webmaster: Paul Chauvet
Outreach: (open)
College Liaison: Dr. Amy Forestell

Board of Directors: Joe Macagne, Karl Loatman, Steve Carey

Minutes of the monthly meeting of the Mid Hudson Astronomical Association, April 18, 2017

The meeting was called to order at 7:34 PM by President Willie Yee in the Auditorium of the Coykendall Science Center at SUNY, New Paltz, NY.

The minutes of the last meeting were approved as published with one correction: Alex O'Neill is 10 years old, not 12 as reported in the latest newsletter.

Officer's Reports:

Membership: No report.

Treasurer: Ken Bailey was present as was our new treasurer Karen Tulchinski. She will be taking over as of this meeting. See Ken's latest report as published in the newsletter.

Treasurer's Report for the month of April, 2017

Date: 13 May, 2017

Bank Balance:	\$2653.07
Outstanding Checks:	\$ 0.00
Outstanding Deposits:	\$ 0.00
Ending Bank Balance:	\$2653.07
Checkbook Balance:	\$2653.07
Balance with Bank:	Yes

Ending balance total: \$2653.07

Notes: Nothing outstanding.

Respectfully submitted: Ken Bailey for Karen Tulchinsky
Treasurer

Outreach:

- **Earth Day, Reformed Church, New Paltz** – April 22. We will skip this year unless someone volunteers.
- **Earth Day March for Science** – April 22. We need volunteers to cover our table at Wayras Park in Poughkeepsie during the event.
- **Bright Ideas festival, High Meadow School, High Falls** – April 29. Solar; Willie and Jack Chastain.
- **Sam's Point Moon Viewing** – April/May. Willie coordinating dates.
- **Haviland School** – May 5. Rick Versace, Jack Chastain, Chuck Clark, so far.
- **Michael Kurdish Preserve, Stamford NY** – May 19-20, Willie coordinating. Jack, Rick, Ken, and Paul Granich, so far.
- **UFO Fair, Pine Bush** – May 20, (if anyone is interested).
- **Pine Plains Library** – May 25. Indoor presentation with possible viewing if weather is OK. Jack Chastain.
- **Poughkeepsie Library Solar Viewing** – July. Willie coordinating.
- **Olana** – October 21. Willie coordinating.

Publicity: Paul Chauvet was not present. Send him info on public events.

Webmaster: Paul Chauvet was not present. No issues known.

Upcoming programs: The following information was shared:

- May: "How Superman Sees the Stars" by Dr. David J. Helfand, Columbia University.

Old Business:

- **Club Telescopes:**

1. We still have the "classic" Meade LX-200. It needs a pier or tripod. Looking for a worthy organization to donate it to.
2. Joe Macagne has the ETX 125
3. Paul Chauvet has the 4" reflector.
4. Jack Chastain has the 13" dobsonian.
5. Jack purchased the 8" Criterion from the club. He has purchased a tripod and wedge at NEAF that are of the same vintage.

New Business:

- Suggestions for future club programs? Willie suggested members give talks about their telescopes, especially if they have an interesting history or features or are home built.

Observing Reports:

- Venus is good in the morning.

Visitors/New Members:

There were about 11 people in attendance at the end of the business meeting.

The meeting was adjourned at about 7:49 PM. The next meeting is on May 16th.

The presentation that followed was "NASA's Solar System Ambassador Program" by Ken Bailey.

Submitted by James Rockrohr, May 13, 2017.

A Thank You....

From: Rochelle Victor <rochekaid@gmail.com>

Subject: Re: Bright Ideas Check-in

Date: April 30, 2017 at 10:51:16 PM EDT

To: "Willie K. Yee, M.D." <yee_willie@yahoo.com>, jack.chastain@gmail.com

Hi Jack and Willie,

I just want to say a huge thank you for coming to our event. It was such a pleasure to meet you all. Even without a fully clear sky, people seemed excited about the telescopes. I hope that day went well for you.

Please pass this along (forgive me for forgetting the third man who volunteered).(Joe M, ed.)

Let me know how things went on your end and if you have any feedback.

Otherwise I hope we connect again in the future.

**Best,
Rochelle**



The Fizzy Seas of Titan

By Marcus Woo

With clouds, rain, seas, lakes and a nitrogen-filled atmosphere, Saturn's moon Titan appears to be one of the worlds most similar to Earth in the solar system. But it's still alien; its seas and lakes are full not of water but liquid methane and ethane.

At the temperatures and pressures found on Titan's surface, methane can evaporate and fall back down as rain, just like water on Earth. The methane rain flows into rivers and channels, filling lakes and seas.

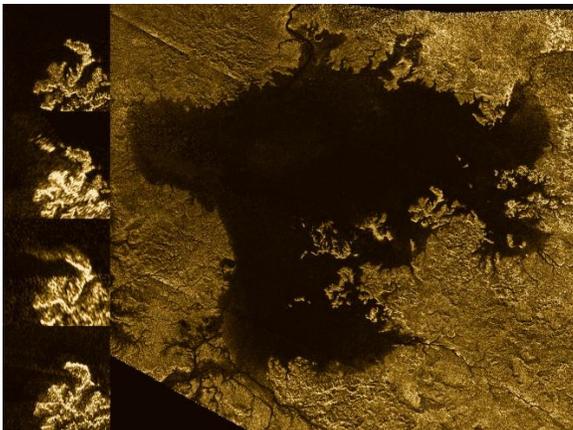
Nitrogen makes up a larger portion of the atmosphere on Titan than on Earth. The gas also dissolves in methane, just like carbon dioxide in soda. And similar to when you shake an open soda bottle, disturbing a Titan lake can make the nitrogen bubble out.

But now it turns out the seas and lakes might be fizzier than previously thought. Researchers at NASA's Jet Propulsion Laboratory recently experimented with dissolved nitrogen in mixtures of liquid methane and ethane under a variety of temperatures and pressures that would exist on Titan. They measured how different conditions would trigger nitrogen bubbles. A fizzy lake, they found, would be a common sight.

On Titan, the liquid methane always contains dissolved nitrogen. So when it rains, a methane-nitrogen solution pours into the seas and lakes, either directly from rain or via stream runoff. But if the lake also contains some ethane—which doesn't dissolve nitrogen as well as methane does—mixing the liquids will force some of the nitrogen out of solution, and the lake will effervesce.

"It will be a big frothy mess," says Michael Malaska of JPL. "It's neat because it makes Earth look really boring by comparison."

Radar images from Cassini showed a strange island-like feature in one of Titan's hydrocarbon seas that appeared to change over time. One possible explanation for this "magic island" is bubbles. Image credits: NASA/JPL-Caltech/ASI/Cornell



Bubbles could also arise from a lake that contains more ethane than methane. The two will normally mix, but a less-dense layer of methane with dissolved nitrogen—from a gentle rain, for example—could settle on top of an ethane layer.

In this case, any disturbance—even a breeze—could mix the methane with dissolved nitrogen and the ethane below. The nitrogen would become less soluble and bubbles of gas would fizz out.

Heat, the researchers found, can also cause nitrogen to bubble out of solution while cold will coax more nitrogen to dissolve. As the seasons and climate change on Titan, the seas and lakes will inhale and exhale nitrogen.

But such warmth-induced bubbles could pose a challenge for future sea-faring spacecraft, which will have an energy source, and thus heat.

"You may have this spacecraft sitting there, and it's just going to be fizzing the whole time," Malaska says. "That may actually be a problem for stability control or sampling."

Bubbles might also explain the so-called magic islands discovered by NASA's Cassini spacecraft in the last few years. Radar images revealed island-like features that appear and disappear over time. Scientists still aren't sure what the islands are, but nitrogen bubbles seem increasingly likely.

To know for sure, though, there will have to be a new mission. Cassini is entering its final phase, having finished its last flyby of Titan on April 21. Scientists are already sketching out potential spacecraft—maybe a buoy or even a submarine—to explore Titan's seas, bubbles and all.

To teach kids about the extreme conditions on Titan and other planets and moons, visit the NASA Space Place: <https://spaceplace.nasa.gov/planet-weather/>

2017 Star Party Schedule

Date	Time	Sunset	End Civil Twilight	Nearest New Moon
January 27th	7:30PM	5:05PM	5:35PM	January 27th
March 3rd	7:30PM	5:49PM	6:17PM	February 26th
March 24th	7:30PM	7:13PM	7:40PM	March 27th
April 28th	8:00PM	7:51PM	8:21PM	April 26th
May 26th	8:30PM	8:19PM	8:52PM	May 25th
June 30th	8:30PM	8:34PM	9:09PM	June 23rd
July 28th	8:30PM	8:18PM	8:49PM	July 23rd
August 18th	8:30PM	7:51PM	8:20PM	August 21st
September 22nd	7:30PM	6:52PM	7:20PM	September 20th
October 20th	7:30PM	6:06PM	6:35PM	October 19th
November 17th	7:30PM	4:33PM	5:04PM	November 18th
December 15th	7:30PM	4:26PM	4:48PM	December 18th

Directions To The Star Party Site

[Lake Taghkanic State Park](#) is in the town Ancram, NY. The park entrance is on the Taconic Parkway 10 minutes north of the exit used for Wilcox park.

Star Parties at Lake Taghkanic are held in the West Parking lot, next to the beach. The skies are darker than in Wilcox, with less stray light to deal with. The horizon is also much lower, especially to the south and east, making many more targets possible.

IMPORTANT: all events at Lake Taghkanic State Park require an **RSVP** which includes license plate number of the car you are bringing (please do so via [Meetup](#)). The park is patrolled by state police, and all non registered cars will be ticketed and risk our use of the park.

General Information:

- ♦ For the foreseeable future, all indoor meetings will be held on the 3rd Tuesday of each month in Coykendall Science Bldg., SUNY New Paltz (directions above) at 7:30 PM. All indoor events are FREE! All are welcome. The presentations are generally geared towards teenagers and up. For more information, call the Club Hotline.
- ♦ Dates listed for star parties are the primary dates. The rain date is the following night unless otherwise noted. Only one session is held for a given weekend, usually on the primary date, Friday, unless postponed (usually due to inclement weather) to the backup date, Saturday. Exceptions to this are noted in the “Scheduled Events” section above.
- ♦ All outdoor events are FREE! All are welcome. If you bring small children, it is your responsibility to keep a close eye on them. Please do not bring white-light flashlights. Instead, bring a red astronomer’s flashlight or an ordinary flashlight covered with several layers of red cellophane. If in doubt about the weather, check the status of the event at www.midhudsonastro.org.