

NOVA



Official Newsletter of the [Salt Lake Astronomical Society](http://www.slas.org)

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This issue is a special one; commemorating the achievement and hosting of the Mike Clements Telescope at the Stansbury Observatory!

Please Welcome The Newest SLAS Members!

Ira Terry, Joshua Johnson, Kristina Olsen, Russell Lindsay, Benjamin Sandeen, Kurt Alloway, Gary Williams, Cathy Robinson, Jessica Taylor, Kylie Estrada, Russell Mackay, and Mark Ebertz

Spotlight on Member (Rejoined): Kurt Alloway

I called Kurt to welcome him to the club. He re-joined on March 30, 2017.

He told me he had re-joined after hearing about Mike Clements and the telescope he built. He told me that he is so happy that the club is being so successful. He took his children when they were young to a lot of places based on a strong interest in astronomy. One of those places was the Stansbury Observatory when it was first put in. (Does anyone remember that day?)

Mr. Alloway told me that he is so proud of his children and that the exposure to astronomy when they were young spurred his son into his choice of astronomical engineering as a career. He wants to work in the space industry. He mentioned his daughter who is also interested in science; marine science, that is, which she is studying in Maine.

Mr. Alloway lives in Tooele (if anyone wants to join him at a star party when the weather is warm at the Observatory) which is an editorial thought☺.

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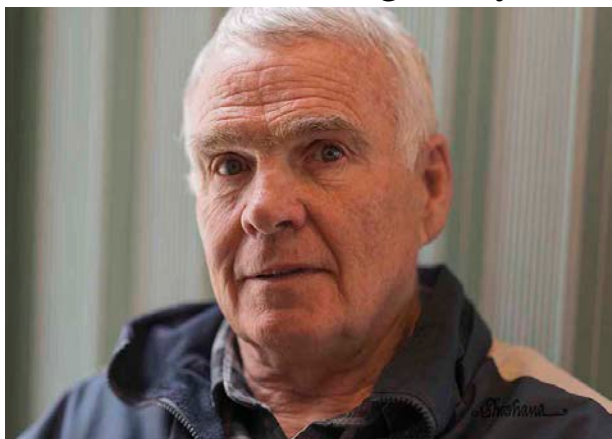
Below: Mike Clements (foreground) with the Mike Clements Telescope



©Shoshana Ebertz (from Chuck Hards)

NOVA Featured Members: Rodger Fry and Mike Clements

..... Interview with Rodger Fry



©Shoshana Ebertz

S: Hi Rodger. Thank you for coming to be interviewed. Is there anything that would interest the members to help us know you better, and anything that drives your interest in astronomy?

R: I'll talk about how I got involved with SLAS. When I was going to school in the 60's, I was very interested in astronomy. It wasn't my major, which was Geology, but I have been involved with astronomy ever since. I bought my first telescope in 1967. I was following developments in astronomy. I retired in end of 2001, and at that time I was heavily involved. My wife gave me a telescope as a gift, which was better than any telescope I had before.

I got involved with SLAS fifteen years ago and have been an officer every year except for every third year when I am required to sit out as a board member. Six years ago the position of Observatory Director was available and was selected. I get a lot of joy out of this position. With that said, I want to explain the driving force and satisfaction that I find in astronomy.

First of all, I love looking at the night skies, and I love looking and understanding information about the cosmos and how it formed. I like even more sharing that information with the public, showing them things through a telescope and presenting it in such a way with how it is formed so it will spark an interest in them to look into this further. I get more satisfaction with other people looking through my telescope than I do myself looking through it.

S: In working with other people, is there one of those times that you recall.....

R: There are many of these but one in particular. There was one evening about 8 years ago, I was operating the Grim telescope at one of our Public Star Parties, and a woman brought her 96 year old father to look through the telescope. The woman and I helped him step up the three steps to be able to look through the telescope. I had the telescope on Saturn. He looked through the telescope and let out a squeal and said, "I never thought I would see something so beautiful!" I will never forget that moment and what we brought into that man's life, to look through the telescope and see that.

Another instance was also an incident involving Saturn. It was at Wheeler Farm about five years ago. I had my personal telescope on Saturn. It was just about at sunset and the sky was still partly blue. A father brought his five year old son. I asked the boy, "Would you like to look at Saturn?" And he said, "Sure". He said, "That's neat, but where's Titan, Saturn's biggest moon?" I smiled at his father and said, "You've got a serious astronomer on your hands." He agreed.

It's not too old or too young to learn about the night sky and the beauties that are out there. It is for everyone!

S: Fantastic and exciting. What are you inspired to learn so that you can impart more discovery to more people?

R: My hope that is that before I die that mankind here on Earth discovers irrefutable evidence of life elsewhere in the Universe. I think it will happen in our lifetime. Since I am a geologist, I am interested in finding fossil evidence of past life here on Earth.

I think that with the right location on Mars that we will find evidence of past life on Mars. I think we have tantalizing evidence today from the Curiosity Rover that found what they call the 'curly macaroni'. I have looked at this image many times and in my book it is organic, but they only found one. If they found dozens it would be hard pressed not to say that they found life on Mars, but they won't say this with just one.

S: Right. Recently they found the earth-like

R: The Trappist One in Aquarius, I think that is wonderful; 40 light years from Earth with seven rocky planets orbiting this red giant star, and they are orbiting very quickly because they are very close to that star. Three of those planets are within the habitable zone with just the right amount of radiation from that host star to allow liquid water to be present, so it's very interesting to look at that possibility. Closer in our own backyard, is the moon Europa, orbiting around Jupiter. There is good evidence that there is liquid water below the icy surface, where we find liquid water on Earth; we always, always find life associated with that. So it is very possible to find life on Europa. I am looking in the future to what exploration might be presented in that direction to identify what is there.

S: I didn't make your last talk, so maybe you can summarize your talk at the last General Meeting (February).

R: Dave Bernson asked me, since I am a geologist, to talk about radiometric age dating of rocks. That is an important aspect of geology because any of the bodies that we find out in space, we can identify how long ago it was when it solidified to the state it is in now. This is just comparing radioactive isotopes that have a known decay rate. If we know the ratio of its parent isotope with what we call the daughter product which is the end result decayed atom, we look at that ratio and see how long it takes to decay that way, and we can accurately determine the age of that rock back to billions of years.

That is the objective of scientists that are looking at meteors and asteroids. It's not a matter of if it is a matter of when the next large asteroid will strike Earth which would have serious consequences. We should know what is out there and we should start mapping those things so that if we have enough time we could do something about it. We have the technology to do something to change the course of an object headed our way. Now is the time to prepare for something like that.

S: How prepared are we?

R: We are mostly unprepared. We are starting to get awareness of this. We do know the possibility of changing an orbit, but this is a matter of cataloguing all those objects that may present a problem. There are organizations that are tracking near Earth objects that present a potential risk. There are telescopes that are solely dedicated to this and over time they can determine their orbital characteristics and project that into the future to see if they will cross the Earth's orbit. So it's a matter of doing the math and collecting the data and if we find one that presents a risk we can do something about it. If we have two years or more to think and plan, it's enough time to change the course of that object so that it won't come into the Earth's atmosphere.

S: Can you describe the analyzing of the objects and where they are found?

R: There is enough material, even a microscopic crystal. They take and analyze that small crystal and determine the ratio of different elements to come up with how long it has been since it was formed.

S: On another note, can you now reveal what is happening with the Mike Clements telescope?

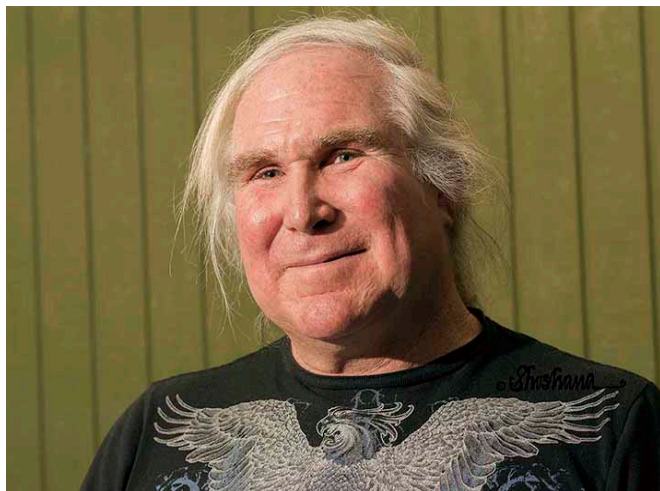
R: I am happy to have something in the newsletter now. The Clements 1.7 meter telescope has been in our plans for over the past year when we signed a contract with Mike Clements to house that telescope at our Observatory. Last year we signed a fifty year lease for the ground that the building will be on. We have raised 68,000 dollars. Over 8,000 of that was donated by members who are very generous. We have the second of March we applied for the building permit from Tooele County. We expect that the contractor is ready for the concrete slab and walls. The walls will be eight feet tall. The steel building has been ordered and will be delivered April 15. We should have the building complete with all doors and accessories by late May, 2017. The telescope should be moved in by early June, 2017. That gives us a tight schedule to have the telescope moved in; the adjustments fine-tuned and re-coating of the mirror for the Grand Opening at the Star Party on June 3 or June 17. We are looking at an early afternoon ceremony. We put feelers out for key speakers. If we get the one we want, he is a former astronaut

and someone very prevalent in space exploration. We are making this a big event. It is one not to miss. This is the biggest amateur telescope in the world.

S: This is the biggest event for us and very exciting.

R: I'm very excited.

Interview with Mike Clements



©Shoshana Ebertz

Shoshana: Mike, when did all this get started?

Mike: When I was a kid I was fascinated with the stars and the planets, although I didn't know much about them. I was living in Los Angeles at the time, and my parents took me to the Griffith Observatory and bought me a little book and a star chart. Well then, of course, I was hooked! One tiny problem was that I didn't know about telescopes, so I started building them. I took apart eyeglasses and put them together with toilet paper tubes, and needless to say it didn't work very well. What I learned from doing that was phenomenal. That's what got me my start.

S: Can you tell me something about what you learned from doing this?

M: What I can tell you is that I learned from my failures, more than my successes and that is true of life in general. Well I just did more and more, with different and unusual designs, making them more portable. I do remember that I made a telescope that I could carry on my bicycle because I didn't drive at the time. It folded down and would fit in a backpack.

S: That's incredible. Did you know you were this talented with design?

M: No, not really, this was mostly out of necessity because I couldn't afford to buy things. The things in the stores were big and bulky, so I figured I could build something to meet my needs and I've been doing that ever since. That's what got me to where I am now. You have to think outside the box; in fact one of the greatest things that would fuel me is when people would tell me, "Oh, you can't do that, that can't be done." That was like throwing gas on the fire for me.

S: You wanted to prove them wrong.

M: Exactly. Well fast forward 40 years, well more than that. Well, with this telescope, I had known Vaughn Parsons and Steve Dodds for years. They let me know there was a 70 " mirror designed for a spy satellite in his possession, and I of course was interested and snapped it up. I wondered whether it could be looked through, in other words used visually because this had always been my interest. I had dabbled in photography but always interested in visual. Back in the 70's and 80's the camera behaved like human eyeballs, in other words, you could photograph what you saw. They told me that there was no reason that it couldn't be used visually. So I bought the mirror, not having built the telescope.

S: That's a big find. Tell me about the quality of the mirror and what, if anything, you needed to do to it. Then we'll move on to the structure of the telescope itself.

M: The interesting thing about the quality of the mirror, chances are it would be far greater quality than I would be able to see visually. This mirror was designed to take pictures of Russia so the quality would surpass the usability in a telescope. Vaughn did mention that he didn't have any test results on it, and it would be a gamble. The very fact that it was finished, I knew the quality would be excellent; that is that it would surpass what I was going to use it for.

S: Is it polished or painted?

M: It is a finished mirror like any telescope mirror but huge.

S: How did you build the telescope and where did you have it stored?

M: I had to build all my own lifting fixtures for it. I modified my friend's engine hoist, and I made other lifting mechanism out of wood and metal. I didn't have any assistance. I was just one person. I built this in Steve and Cindy Dodd's garage because of their generosity, which is how I was able to do this project. Without them I wouldn't have been able to do this and they deserve much credit.

I didn't know if the mirror would work. My friend Steve is a professional optician and he told me that if I built the structure and if I could move it down towards where he could do a test on it, I will see if it would actually work.

So I went ahead and built the entire telescope structure not even knowing if the mirror would work. I was able to tilt it down and Steve was able to verify that it was finished and very good quality but in fact the test that he was using at the time didn't exactly say how well it would work. It did surpass the testing equipment that he used so that it would work for my purposes.

S: Fantastic! You must have been thrilled! What happened next, did you build the whole telescope on their property?

M: Yes, I had built the whole structure. What I had to do next was make the mirror reflective. The mirror was finished but I had to make it shiny. With Steve and Vaughn's help I did a process called 'chemical silvering'. I trained myself to use scrap pieces of glass to learn how to do this process. I was able to make the 70" mirror and its 29" secondary mirror reflective.



S: That is amazing. After you did that how did the structure come into play?

M: I built the structure before I knew if the mirror would work. I could have spent more money to try to test the mirror and if it wouldn't work, I would have wasted all that money. Well, if I'm a gambler, which I was, just go all out and build the whole structure and then if it didn't work, I would have failed in a colossal way.

S: (Laughs)

M: If you are going to do it, even failure, do it right. Peter Rosen, one of the news people, did a story on me while I was building it, from when I first acquired the mirror. In the beginning, I told him that the mirror might not work. To that date no one had built anything like what I was attempting. The reporter told me that what was interesting was 'the struggle'. It was more of a human interest story. He did have one request. He asked that if it was a failure, would I have any reservations about acknowledging failure. I told him I had no problem doing this. I told him that one has to embrace failure to succeed. I told him I would get on the news and laugh at myself.

When it was a success and he came over to look through it, I told him that there was no need to run the story as a failure because it was obviously a success.

S: Incredible! So what was the date when everything came together and you knew it was a success?

M: It was finished in August of 2013. When Steve did the test and I looked through it.

S: Do you remember the exact date?

M: I hadn't even slept. I didn't know if it was day or night. I was a zombie. I had set up the telescope to use in a couple of days. So in the evening, the moon was out and it wasn't that dark yet. Even though I didn't finish the focusing assembly, (the thing that holds the eyepiece). I had a whim of a thought. It was, "Aim the telescope at the moon and just hold the eyepiece in my hand." I had to do it. I was compelled. I was trembling with excitement. I was shaking as I looked through it. I then had a wave of disappointment and said to myself, "Oh no, oh my gosh, it looks like the edge of the moon looked jagged; not really smooth like it should be!" Then it dawned on me, I HAD ZOOMED ALL THE WAY INTO A CRATER! Then I realized that this telescope is unstoppable! It was devastatingly effective. I had no idea it was so powerful and would perform so well.

I then went public and invited my friends and the media to look through it in August 2013. That's when it was unveiled to the world.



© Steve Dodds

S: Amazing! So it resided at the Dodds'? It was still on their property?

M: Correct, they were generous enough to keep it on their property.

S: With your explanation I can't wait to look through it! What happened next?

M: Then I got a trailer for it to make it transportable. That was my goal, to bring it to the people. Then the Salt Lake Astronomical Society approached me about building a building for it and housing at their facility and to take out for observing. I jumped at the opportunity with their generosity.

M: As we speak the concrete is being poured at the Salt Lake Astronomical Society facility.

S: We are living in exciting times. From August 2013 up to about now, what have you been doing?

M: The conditions are harsh. It's very windy at Steve and Cindy's house, so I have used it very little, but I do every chance I get.

M: I should mention this in the interview; this will be the largest FREE telescope in the world. There are other large telescopes that people can look through, but they are not free! They charge, you have to reserve them.

S: Are you percolating with other ideas?

M: My current goal will be getting the 70 inch telescope situated in its new home at the observatory complex. After all, this is a very weighty yet exhilarating undertaking. This telescope will continue to be my endeavor for many years to come, continuously breaking new ground. This instrument with the help of all of my amazing friends will pursue numerous courses through previously uncharted amateur astronomical waters.

S: I don't mean to minimize it at all to ask you if you have other ideas, this is an amazing feat. Where was the Peter Rosen story published?

M: It's on YouTube. I believe he was working for KSL. If anyone types in Mike Clements telescope, there are all sorts of links.

S: I will look for that and link it in the article.

<https://www.youtube.com/watch?v=m3l3wY1wemM>

Additional link (Fox 13) https://www.youtube.com/watch?v=KoE9K1QKZ_c

And the only other thing I usually do when I interview someone, and I've only been doing this a short while, is that members were asking me to take a picture of the person I am interviewing. Can we do this sometime, maybe at the next meeting?

M: Sure, that would be great!

S: This has been an incredible interview; to learn about the process you went through. Do you have any encouragement or advice for us?

M: Yes I can say this again. For people not just building telescopes but for life in general, pursue your dreams. Don't let people tell you what you can or cannot do. That is a huge thing. And as far as the observatory goes, I give my thanks to the Salt Lake Astronomical Society for their generosity and I can't thank them enough. The building wouldn't be possible without them.

I want to acknowledge Steve and Cindy Dodds, and Vaughn Parsons. When Vaughn bought the mirror at auction he had me in mind; he didn't even know I would be interested. Vaughn is Intermountain Optics, and Steve runs Nova Optical.

S: Anything else you want to add? I assume from the pictures, I forgot to ask, that this is a truss tube?

M: Yes, it's an open truss tube. It's a Dobsonian style mounting, just very basic.

S: So will it be moved by hand or on an equatorial mount?

M: I'm so glad you asked that! This is the largest telescope aimed by hand, by one person. Once the object is acquired, the tracking motor takes over. It is aimed by a human being. I'm so glad you mentioned that, this is huge! Most telescopes this size are automated. This one is human automated.

S: This is so awesome, because the other ones you just punch in what you want to look at. This one you find what you want to look at and then the motor takes over. It becomes more of a human experience.

M: Yes, this is referred to as an alt-az mount, and that the tracking motor takes over. The input on the tracking was provided by Dan Gray of Sidereal Technologies.

S: Have you ever put a camera on it?

M: No interest. I am strictly a visual. The views that people see is the experience.

S: Yes, the camera can never duplicate something that powerful or represent the experience. It's an internal experience.

M: It is internal and very visceral.

S: It was amazing to hear your story, Mike, and thanks for the time. I'm sure everyone will enjoy learning about your process.

M: Thanks for the interview, thanks for the questions that I didn't think of. You had good questions.

S: All the best, Mike.

Below you will find meeting minutes and Advisory Committee meeting in Chronological Order:

**MINUTES OF THE SALT LAKE ASTRONOMICAL SOCIETY BOARD MEETING
March 8, 2017**

2017 Board members in attendance: Dave Bernson, Joe Bauman, Aleta Cox and Rodger Fry. (Nate Goodman was out of town.)

General members in attendance: Charlie Green, Patrick Wiggins, Joan Carman, Cory Bauman, Enid Norton, Mike Anderson, Shoshana Ebertz, Larry Holmes and Mike Clements.

Meeting called to order: 6:57 PM

2017 Star Party Schedule

Dave Bernson announced that the star party scheduled as approved in the February General Meeting is ready to publish with the change that the Holiday Harmons is not expected to be completed by the time that star party is to happen so it will be at the Seventh Street Harmons. Joe Bauman will email Rodger Fry the schedule and Rodger Fry will then format the schedule in the print-ready document. Dave Bernson will contact the Tooele Transcript to get 9,000 copies of the schedule printed.

Observatory Update

Rodger Fry presented the Observatory update as follows:

1. We need to ensure that we have two volunteers for each of the telescopes for all the scheduled parties. This includes The Grim, Ealing, Bogdan Clements, ADA and the C-14. He suggested that Nate Goodman incorporate a Google Drive spreadsheet as Don Knowlton did last year.
2. We have scheduled a SPOC Advisory committee meeting to be held Saturday, March 11, 2017 at 6:00 PM at the Denny's located at 250 W. 500 S., Salt Lake City, UT.
3. Update on the Clements Building was given
 - a. Permit application was filed with the Tooele County office on Friday, March 3rd with a two-week expected turnaround time.

- b. Construction of the concrete work will begin as soon as permits are in hand.
- c. The steel portion of the building is scheduled for delivery on April 15, 2017.
- d. We plan to have the telescope in the building about May 1, 2017.
- e. Grand opening scheduled for May 20, 2017 at 3:00 PM

Board Member Reports

Joe Bauman has been working on preparing the ZAP grant application requesting \$6,000 (a discussion was held about increasing this amount but the consensus was that we would be better off requesting the original target amount). Joe presented a video generated by Kathy Terry which highlights what we do for the public with SLAS (it was very well done and supported by the board)

Joe Bauman then suggested that we as a society provide information to our members and the public about viewing the upcoming total solar eclipse that will occur in August of this year.

Joe Bauman suggested that we have some private star parties scheduled for nights other than Saturday to accommodate people that cannot attend on Saturday nights because of conflicts. We indicated that trained operators can schedule open-house star parties at any time the observatory is not reserved for members to attend.

Joe Bauman asked if the board members would object to giving contact information for the board to the news media so they can contact the board directly regarding questions. All board members in attendance agreed.

Aleta Cox reported that we are beginning to get calls for special star parties. Magna Library has requested one on July 26th and Tooele Library has requested one on June 26th. These are now on the website calendar. We also have a school star party on April 4. Please log in to the website events calendar to see the details of the school star party.

Nate Goodman

Nate was out of town and nothing was presented regarding his contributions.

Aleta Cox indicated that she had been contacted by Todd Posselli, the editor of Utah Family Magazine about setting up a booth at their event held at the South-Town Expo Center on April 1, 2017. He would give us a free booth space if we would provide a star party in the evening at that event. Dave Bernson was going to contact Todd at 801-835-4315 to assess the feasibility of working with them.

Shoshana Ebertz NOVA Editor

Shoshana Ebertz suggested that as NOVA editor, she call and welcome new members of the club. This was supported by the board and it was suggested that she get a short biographical sketch of the new member and with their permission publish this in the NOVA.

Shoshana suggested that the proceeding of our board meeting be live-streamed and available for review from our web site. A discussion followed and it was decided not to implement the live-streaming recording of the Board meetings but continue to encourage general members to attend the meetings.

The board approved Shoshana publishing the NOVA edition without a draft.

Treasurer's Report

The treasurer's report is as currently posted on the web site (we are solvent and all funds accounted for).

Library Loaner Scope Update

Joan Carman contacted the Salt Lake City Library and they are very interested in working with SLAS on getting some telescopes in their system. They will likely fund two or more telescopes this year.

Joan Carman asked the board if we would consider making available \$850 from our general fund for use with purchasing more telescopes for the loaner program. Rodger Fry presented a motion that we present before the general members in attendance at next week's meeting the approval of transferring these funds as outlined. Joe Bauman seconded the motion. A discussion followed and because of a suggestion made by Patrick Wiggins, the motion was modified to transfer the \$850 from the ZAP funds to the loaner telescope project (shown as the Athan Ballamis fund on the SLAS Books). The vote by the board was unanimous.

Enid Norton commented that her experience with working with the library system showed that abuse of books is common and had concern about how this would be with telescopes. Rodger Fry indicated that the burden of protection of the telescopes rests with the Library system and not with SLAS.

New Business

Dave Bernson asked that each member try to research galaxies that can be viewed with personal telescopes that are further than 65 million light-years away

Dave Bernson also indicated that he and Nate Goodman were contemplating putting together a telescope trip to Chile sometime in 2018 and that he would like to see members from SLAS to join the trip.

Old Business

Signing of check to Rodger Fry for reimbursement of expense (\$75) for renewing the Utah State Charitable Organization Permit.

Meeting Adjourned: 8:16pm

SPOC ADVISORY COMMITTEE MEETING

MARCH, 11, 2017

Committee Members in attendance:

Bill Kennedy, Patrick Wiggins, Rodger Fry, Nate Goodman, Jim Keane, Stan Erickson, Larry Holmes, Ken Porras, and Dave Bernson

Visitors in attendance:

Luke Moses and wife, Jamie Bradley, Mike Clements, Charlie Green and Bob Moore.

Meeting called to order: 6:00PM

Preparations to get the observatory open:

Bogdan: Install optics March 14, 2017 4:00PM

Add stand-offs to move finder scope further from main scope optical tube. Bill Kennedy to work with Patrick Wiggins to get this done. A mockup will be made first to test and then final out of brass. The interior side of the draw tube will be covered with a flat black anti-reflection material. Dave Bernson and Patrick Wiggins will be working on this.

Ealing: Telescope is currently ready for operation. Mike Clements will get with Steve Dodd to have him look at mirror and make recommendation if cleaning is needed.

Grim: Rodger Fry to replace hand-paddle wire and install computer controls on March 14, 2017 at 4:00PM. Mike Clements will get with Steve Dodd to have him look at mirror and make recommendation if cleaning is needed.

C-14: The 2-inch diagonal is cracked and Rodger Fry will order new diagonal to replace the broken one. Current one is usable until new one arrives. The set-up survey spads were removed prior to construction of the concrete work for the Clements Telescope and will be replaced by Rodger Fry prior to the first star party.

ADA Telescope: This telescope is currently operational

Recertification: Recertification will start with instructors on any clear nights on or after March 14, 2017. Recertification of operators will then follow as weather permits with the intent of having enough operators recertified to man the operation at scheduled star parties.

The training coordinator for the Bogdan is Patrick Wiggins, for the Ealing it is Bill Kennedy, for the Grim it is Rodger Fry and for the Clements it is Mike Clements.

Instructors for the Bogdan are Patrick Wiggins, Dave Bernson, Rodger Fry and Bill Kennedy

Instructors for the Ealing are Mike Anderson, Mike Wilson, Dave Bernson, Jim Keane and Rodger Fry

Instructors for the Grim are Dave Bernson, Dale Wilson, Jim Keane and Rodger Fry

Progress on the Clements Building

Design plans for both the concrete work and the steel building were submitted to Tooele County with the application for the building permit on March 3, 2017. We are looking to have approval on or about March 20, 2017.

We have scheduled a ground breaking ceremony to occur at 5:00PM on Saturday March 18, 2017. Major donors and local government officials will be invited. The news media will be asked to cover the event. Bob Moore and Rodger Fry will be working out the details and will send out a SLAS Blast.

We anticipate the completion of the concrete work by about the end of the first week in April with Western Steel delivering the building on April 15, 2017. It will take about two days to erect the building and a few days to install the doors.

We anticipate moving the telescope to its new home on May 1, 2017. Mike Clements will have the steel structure of the telescope re-painted and I-beams welded on the base to accommodate the Pallet Jacks.

Mike will re-silver coat the mirror after it is in the new building.

The grand opening will occur on May 20, 2017 at 3:00PM

Other Topics Discussed:

Jim Keane noted that the roofing on the west side of the control room is coming un-bonded from the roof and needs attention. This will be looked at on March 4, 2017 and repairs scheduled as needed.

A discussion was made as to the method of assigning volunteer operators for the telescopes. This year we will have six telescopes to get volunteers for (Bogdan, Ealing, Grim, C-14, ADA and Clements). A discussion was made as to using a Google-based spreadsheet or conventional method in getting volunteers assigned. It was determined that the conventional method of sending out SLAS Blasts and getting responses is the best way to give newly certified operators the opportunity to operate the telescopes so this is the method to be used. Nate Goodman has been assigned by the SLAS board to perform this duty.

The terms for committee members Patrick Wiggins and Larry Holmes were extended through the end of 2017 and this recommendation will be passed on to the SLAS board for ratification.

A discussion was held about purchasing a photo eye-piece that can be hooked up to a flat-screen television. This would be used to view the moon, planets and perhaps the sun using the Day Star filter. Patrick Wiggins was authorized to spend up to \$350 in purchasing this equipment.

Meeting adjourned: 7:28PM

General Meeting Minutes

Date: March 15, 2017 7:30 PM

Location: Room 207 Calvin Rampton Technology Building at Salt Lake Community College

Attendance: 55 members and guests

SLAS President, Dave Bernson welcomed all in attendance and introduced our 2017 SLAS board (Dave Bernson, Joe Bauman, Aleta Cox, Nate Goodman and Rodger Fry)

Dave Bernson introduced new members and visitors present which included: Mark Swain & wife, Nathan Baxter, Kingston Baxter, Wayne Pierce (Deloy Pierce's brother), and Ben Sandine

Enid Norton brought to the attention of attendees that if you want to check out a loaner telescope you must be a member and should join the society.

Aleta Cox said that the first school star party will be held April 4th at Indian Hills Elementary located at 2496 St. Mary's Drive. She encouraged all to attend.

Nate Goodman said that this coming Saturday is a solar party at the Natural History Museum of Utah from noon to 3PM. The last one will be the following Saturday on March 25th.

Rodger Fry gave an update on the progress for the Clements Telescope Building and told all of the ground-breaking ceremony to be held this coming Saturday, March 18, 2017 at 5:00PM.

Telescope training of instructors is now in progress. Dave Bernson indicated that the coordinators for training is as follows:

Reflector:	Dave Bernson
Ealing:	Bill Kennedy
Grim:	Rodger C. Fry

Dave Bernson with the help of Joan Carman explained the Library telescope loaner program and requested that the general membership approve using \$850 from the ZAP fund for this purpose. Bill Kennedy made a motion to approve this and Cecile Oldham seconded the motion. The vote was unanimous.

Joe Bauman said that we would be having four weekday private star parties for members who have conflict attending those on weekends. The dates chosen for these are as follows:

Tuesday June 20, 2017
 Tuesday July 18, 2017
 Tuesday August, 15, 2017
 Thursday September 21, 2017

Dave Bernson thanked member Kathy Terry for producing a wonderful video which showcases our public outreach. The video was shown at the meeting and was a big hit.

Dave Bernson conducted a drawing for two copies of the Stars and eight copies of Night Watch.

The 2017-star party schedule has been made print ready and Joe Bauman will see that this gets to the printer.

Joe Bauman gave a lecture on ecosystem changes in the marine environment around the Marshall Islands

Dave Bernson gave a presentation on cataclysmic events in the geologic past that caused mass extinction and how these have been triggered by large meteor or comet impacts on Earth.

The meeting was adjourned at 9:45 PM.

SALT LAKE ASTRONOMICAL SOCIETY

April Board Meeting April 12, 2017

Meeting convened at 7:00PM at Denny's 250 West 500 South, Salt Lake City, Utah

Dave Bernson was sick and asked that Joe Bauman conduct the meeting in his absence.

Board Members Present:

Joe Bauman, Nate Goodman, Aleta Cox and Rodger C. Fry

Members Present:

Charlie Green, Siegfried Jachmann, Mike Clements, Larry Holmes, Patrick Wiggins, Ken Warner, Luke Moses Cory Bauman and Joan Carman

Board Members Reports:

Treasurers Report:

General Fund	\$5,562.55
Entertainment	\$454.23
Astronomy League	\$1,060.00
Insurance	-\$364.50
SPOC	\$5,156.56
ZAP	\$3,152.48
Clements Building	\$27,697.28
Athan Ballamis Fund	\$676.00
Total	\$43,427.60

Rodger Fry noted that the insurance fund was a negative balance because the annual premium increased to \$1,218.00 when it was under \$900 last year. Because we are underfunded, Rodger Fry presented a motion that we move \$364.50 from the general fund to the insurance fund. The motion was seconded by Nate Goodman. The vote by board members was unanimous. Rodger said that this is an issue that needs to be addressed in the 2018 dues structure.

SPOC Report

1. All systems go for existing telescopes
2. Update on Clements Building
 - a. Footing rebar in place and inspector put pouring concrete on hold until water is out of excavation
 - b. Steel building now fully paid for and delivery scheduled at SPOC for next week
 - c. Steel building will be assembled after concrete work is complete and cured about a week to 10-days
3. Fund Raising Progress
 - a. Since I sent second request Saturday April 8, 2017
 - i. \$4,200 Donated

ii. \$1,300 Promised

b. Tooele County Matching grant will be given to Stansbury April 19, 2017 10:30 AM and Stansbury will write a check to SLAS

4. Expected remaining Budget \$44,000
5. Remaining Funds \$43,000
6. Grand Opening On May 20th or June 3rd
7. Telescope Moving system back to Pallet Jacks because of concerns Mike Clements and Rodger Fry had about motorizing the base of the telescope.

Aleta Cox indicated that the first school star party of the year held on April 4, 2017 at the Indian Hills Elementary School was a big success with 8 or 9 telescopes set up and about 60 students present.

Aleta indicated that she was approached by the Jordan River Commission about an event they will have in September and was wondering if we had an interest in participating. More information is needed about the event and Aleta will present that when it is available.

Aleta Cox also mentioned that she was approached by a school about a star party on May 12th but that is two days following a full moon and so she informed the school that May 12th would not be a good day for a star party because the moon light would hide most visible objects.

Nate Goodman told the attendees that Dave Bernson, Joe Bauman and Nate Goodman distributed star party schedules and plastic holders to all the Harmon's stores and to Wheeler Farm. Joan Carman was given star party schedules to take to the libraries.

Nate said the weather looks very favorable for this coming Saturday's Solar Party and he will send out a SLAS Blast to members about this event.

Nate also said that he has got volunteers for the SPOC star parties in April. Rodger Fry said he will send Nate a spreadsheet that posts the operators.

Joe Bauman said that he completed the ZAP grant application and that no questions were brought forth by the Salt Lake County office regarding the application. Joe reiterated that this application included a link to the video created by Kathy Terry which highlights SLAS events and a story about Athan Ballamis and his Eagle Scout project that was inspired by SLAS events.

Joe noted that Ken Warner has for many years maintained the SLAS web site with no compensation for his personal investment in this. Ken said that he didn't feel that he needs to be compensated for past years work but wouldn't object to being compensated for this year's work. Joe suggested \$20/month. Rodger Fry presented a motion that we present to the general members at next week's meeting a payment for 2017 to be \$240 out of general funds to Ken Warner for web site maintenance. Nate Goodman seconded the motion and the vote was unanimous.

Joan Carman presented progress on the Library telescope loaner program and indicated that this year we would be modifying 13 telescopes (two purchased with the Athan Ballamis fund, two from the ZAP grant, and nine from the Salt Lake Library). Athan Ballamis scout troop will help in the modification process and he will be present when the telescopes are delivered to the library.

Joe Bauman talked about the April and May general meeting speakers and an offer was made to Jani Radenbaugh, a BYU professor, to talk about her meteorite hunting expedition to Antarctica. Patrick Wiggins sent her an email but no response was made during the meeting. If she can present this in May then the presentation of Spring Constellations will be presented in April but if she can only present this in April then we will put the Spring Constellation presentation to May.

Rodger Fry indicated that many SLAS members would not be in town for the June general meeting because they will be in Bryce Canyon. The opinion was that enough members would be present to hold the meeting and Joe Bauman who will not be in Bryce Canyon could conduct the meeting.

Rodger Fry voiced concern that many SLAS members had regarding the March general meeting both from subject matter and length of the meeting. It was generally agreed that the SLAS general meetings should be limited to 1 ½ hours and the lecture should be of an astronomical subject.

No Old or New Business was presented

The Meeting was adjourned at 7:55 PM

General Meeting Minutes

Date: April 19, 2017 7:30 PM

Location: Room 207 Calvin Rampton Technology Building at Salt Lake Community College

Attendance: 45 members and guests

SLAS President, Dave Bernson welcomed all in attendance and introduced our 2017 SLAS board (Dave Bernson, Joe Bauman, Aleta Cox, Nate Goodman and Rodger Fry)

Aleta Cox said that she had received an email from a charter school requesting a star party sometime in May but no date has been set. She will send out a notice when they have decided on a date.

Joe Bauman said that at our April board meeting that we discussed the cost that Ken Warner incurs in maintaining our web site and that it is about \$20.00/month. At that meeting Ken said that he is not interested in getting back compensation but would not object to being compensated for his costs. Rodger C. Fry made a motion that we get approve paying Ken Warner \$240 for 2017 web upkeep from the general fund. A discussion was made that perhaps the ZAP fund could be used but Rodger Fry said that people throughout the world visit our web site and that to avoid clouding the issue of using ZAP funds for benefits outside of Salt Lake County we should not use ZAP funds for this. Joe Bauman seconded the motion and the vote by general members present was unanimous.

Rodger C. Fry gave an update on the Clements Telescope Building Fund and construction project. We are basically funded but could use additional funds and construction is in progress.

Don Colton presented the 2017 schedule for dark sky private star parties and passed out printed schedules to those that wanted them. He also talked about the Bryce Canyon Astronomy Festival that is scheduled to be held June 21-24, 2017.

Dave Bernson talked about lunar eclipses and what information the event tells the human population on Earth about the Moon, and Earth and their relative sizes and shapes.

Dave Bernson talked about conspiracy theories regarding the Lunar landing missions. He explained why even considering such a theory is absurd and why NASA couldn't have faked the landings.

Dave Bernson talked about Cedar Breaks and the community of Torrey, Utah and their Dark Sky designation and star parties scheduled there.

Dave Bernson talked about last month's meeting topic and presented his rationale about what was presented.

Dave Bernson then presented a discussion of the Starry Winter Ring of Stars.

A drawing was held for copies of "The Stars" and "Night Watch"

The meeting was adjourned at 9:00PM

SLAS Member Information

The SLAS Member Information file is available at <http://slas.us/slasbooks/NEWMEM.PDF>.

Loaner Telescopes For SLAS Members

SLAS has several scopes available for loan to current SLAS members. Check the SLAS website under "Membership Benefits" for details.

2017 SLAS Board of Directors

President	Dave Bernson	801.263.9264	bernsondave@gmail.com
Meetings			
Vice President	Joe Bauman....	.801.583.7935.	josephmbauman@yahoo.com
Publicity, PR and Web Content			
Secretary-Treasurer	Rodger Fry	801.288.0851	rcfry@comcast.net
Membership Dues & Renewals			
Board Member at Large	Nate Goodman	801.277.0193	ngoodman6053@gmail.com
SPOC Star Party Coordinator:			
Board Member at Large	Aleta Cox	801.966.2636	alc@fredccox.com
School & Special Star Parties			

Appointed Positions

Astronomical League Contact	Ryan Simpkins	801.602.8661	simpkins.ryan@gmail.com
Equipment Manager	Anderson, Mike	801.910.0997	fisherman285mike@gmail.com
Historian	Patrick Wiggins	435.882.1209	4099wiggins@gmail.com
NASA Night Sky Ambassador	Ann House	801.671.8447	ann@annhouse.org
Newsletter Editor	Shoshana Ebertz	801.884.7522	ebertzs@comcast.net
Newsletter Asst. Editor	Jamie Bradley	801.916.9587	jbradley@jamiebradley.com
Observatory Director	Rodger Fry	801.288.0851	rcfry@comcast.net
Private Star Party Coordinator	Don Colton	801.571.9757	dcoltonsprint@earthlink.net
Solar Scope Manager	Ken Porras	801.210.8427	kennethprrs@gmail.com
Webmaster	Ken Warner		webmaster@slas.us
ZAP Grant Writer	Ann House	801.671.8447	ann@annhouse.org

Current SPOC Advisory Committee

Chair through DEC 2018	Rodger Fry	801.288.0851	rcfry@comcast.net
Member through JAN 2018	Rodger Fry	801.288.0851	rcfry@comcast.net
Member through JAN 2018	Stan Eriksen	801.446.1479	staneriksen@icloud.com
Member through JAN 2017	Larry Holmes	801.467.7855	larry@kijoda.com
Member through JAN 2018	Bill Kennedy	801.964.6199	truss_tube@hotmail.com
Member through JAN 2018	Nate Goodman	801.277.0193	ngoodman@lgcy.com
Member through JAN 2019	Ken Porras	801.210.8427	kennethprrs@gmail.com
Member through JAN 2017	Patrick Wiggins	435.882.1209	4099wiggins@gmail.com
Member while SLAS President	Joan Carman	801.943.4192	jcarman6@q.com
Member as Obser. Dir. Emeritus	Bruce Grim	435.882.5237	bmargrim@msn.com
Member while Harmons Rep.	Tara Haynie		

Current SPOC Telescope Instructors

Mike Andersen	Ealing	801.910.0997	fisherman285mike@gmail.com
Dave Bernson	Refractor, Ealing, Grim	801.263.9264	dustynebula@gmail.com
Rodger Fry	Refractor, Ealing, Grim	801.288.0851	rcfry@comcast.net
Bill Kennedy	Refractor, Ealing	801.964.6199	truss_tube@hotmail.com
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Dale Wilson	Grim	801.518.7859	dalel2112@yahoo.com
Mike Wilson	Ealing	801.508.1050	astro_outwest@yahoo.com

NOVA is a publication of the [Salt Lake Astronomical Society](#), a non-profit organization. Nova contains minutes of meetings, Board member names & contact info, activities, reports and special club events. The editor of NOVA is appointed by the Board. Members are encouraged to contribute content. Current NOVA editor is Shoshana Ebertz 801.884.7522, Assistant Editor is Jamie Bradley 801.916.9587.

Events Calendar

View a list of all SLAS events online on the [Events Calendar](#)

Next Three Month's Activities:

General Meeting: SLCC Redwood Campus, (App. 4600 s. Redwood Road.) Calvin L Rampton Building, at the north east corner of the campus, room to be announced. Free parking is available east of the building, in the Q lot.

Board Meeting: All members and guests are welcome. From 7:00 – about 8:00 p.m. at Denny's Restaurant, 250 W. 500 S., Salt Lake City.

SPOC Observatory: http://slas.us/images/MAPS/SPOC_Map.gif

May, 2017

05, Friday, Public Star Party, Harmon's store parking, Taylorsville, 5454 S. Redwood Road

06, Saturday, Public Star Party (Stansbury Observatory)

10, Board Meeting (address above)

13, Sun Party Winchester Park at the Jordan River Parkway, 64 S. 1100 West

17, General Meeting (address above)

19, Friday, Public Star Party, dusk until 10:00 pm at Wheeler Farm, 6351 S. 900 East

20, Saturday, Public Star Party (Stansbury Observatory)

26, Private Star Party, Capital Reef, Dark Sky Site: Panorama Point, Pit n' Pole

27, Private Star Party, Capital Reef, Dark Sky Site: Panorama Pint, Pit n' Pole

June, 2017

- 02, Friday, Public Star Party, Harmon's store parking, 7755 S 700 E
- 03, Saturday, Public Star Party (Stansbury Observatory), **Special Event**: Dedication Ceremony for the building to house the Clements Telescope: 4:00PM-6:00PM.
- 10, Sun Party, Winchester Park at the Jordan River Parkway, 64 S. 1100 West
- 14, Board Meeting (address above)
- 16, Friday, Public Star Party, Wheeler Farm, 6351 S. 900 East, Salt Lake County
- 17, Saturday, Public Star Party (Stansbury Observatory)
- 20, Private party for SLAS members who would enjoy star gazing during weekdays (SPOC Observatory), dusk – 11 pm.
- 21, General Meeting (address above)
- 21 – 24 Bryce Canyon Astronomy Festival, Bryce National Park
- 26, Tooele Library Special Star Party, Tooele Library, 128 W. Vine St., Tooele, Utah
- 30, Friday, Public Star Party, South Jordan Harmons store, 10507 South Redwood Road, South Jordan

July, 2017

- 01, Saturday, Public Star Party (Stansbury Observatory)
- 08, Sun Party, Winchester Park at the Jordan River Parkway, 64 S. 1100 West
- 12, Board Meeting (address above)
- 14, Friday, Public Star Party, Wheeler Farm, 6351 S. 900 East, Salt Lake County
- 15, Saturday, Public Star Party (Stansbury Observatory)
- 18, Private Star Party for members mid-week (Stansbury Observatory), dusk – 11 pm.
- 19, General Meeting (address above)
- 21, Private Star Party, Dark Sky Site: Wolf Creek, map: <http://slas.us/maps/wolfcreek.htm>
- 22, Private Star Party, Dark Sky Site: Wolf Creek (see above map)
- 26, Magna Library Special Star Party, 2675 S. 8950 W, Magna, UT
- 28, Friday, Public Star Party, Cougar Harmons store, 4874 W. 6200 South, Salt Lake City
- 29, Saturday, Public Star Party (Stansbury Observatory)
