

FAS Newsletter

Federation of Astronomical Societies

<http://www.fedastro.org.uk>

FAS News

Dr Paul Daniels FAS President



I must start with an apology to those of you who've sent me an email over the last few months and had a slow reply (or not at all). Last August I, my wife and elderly Mother-in-law went through the torture of moving house: Surrey to Norfolk with a chain that was eight long!

As well as the house-move there was organisation of the FAS 2018 Convention & AGM at the modern Spring Lane venue of the University of York on 22nd September. We had a *wonderful* programme of speakers with some fabulous talks and a tour of the University's AstroCampus during lunch. The day went well apart from one speaker who was thwarted by the train strikes and many thanks go to Prof Brad Gibson (University of Hull) for giving another talk at the end of the day. We had good feedback on the day and by email afterwards from several of the *approx.* 65 attendees. It would've been better if we'd had more but our clear lesson is that we have to publicise earlier and more widely than last year and we'll be doing just that as soon as we've finalised the date and venue (which should have happened by the time you read this).

The Council are still working on the documents we said we'd produce and we're hoping to have the new Laser Pointers and updated Child Protection guidance documents out soon (again, by the time you read this).

Before I sign-off, I'd like to take this opportunity to make a request: by the time you read this we'll be back in renewals season again and it would be *very* helpful if you could please make sure that your society's contact details on MARS are all up-to-date.

Cheers for now

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From the PLI Secretary

Are your society's FAS contacts up to date?

[This is important information for all FAS member-societies' officers and other committee members.](#)

FAS Council communicates with member societies via two designated contacts held in the FAS Membership database. One of these two is designated as the contact for Public Liability Insurance (PLI) renewals, documentation and ongoing PLI updates.

Each member society keeps its own database entries up to date using the FAS membership system (MARS).

It's important to keep your society's designated contacts up to date so you don't miss significant new information about PLI, for example.

It's especially important at this time of year (February, March) when FAS Council emails reminders to renew membership and PLI subscriptions. Following that, starting in April, we email links to the new PLI documentation to your PLI-contact.

To use MARS, you need to know your society's all-digit id-code and password. Go to the FAS website www.fedastro.org.uk, Members Area, Updates and Renewal, update page. (After you've entered the correct log-in details the system may display a log-in box again. If so, just enter the same information a second time.)

Once you're into MARS, updating the data is straightforward.

The interface is maybe a little long in the tooth - spend a bit of time looking at the prompts and your entries to make sure you've got what your society wants. For example, if you want PLI make sure the PLI-required box is correctly set.

We recommend that you identify at least another two members of your society, in addition to the designated contacts, who act as FAS-contact backups and who know how to access the PLI documentation and also how to update your MARS entries. A common problem is that a society's designated contacts are unavailable at renewal time or at other times when you need urgent access to PLI documents. Then your backups can take over.

If you find that your society really has got no record of its MARS login information then a society officer or committee member needs to email the FAS membership secretary as soon as possible to get the procedure going to set up your society with new contacts. Please allow several days for this to happen - FAS needs to be sure we're dealing with bona-fide society contacts.

Just after membership- and PLI-renewal time (starting 01 April) your PLI contact will receive an email with an "Introduction to FAS PLI" document. This contains, as it says, an introduction to the subject of FAS PLI, together with links to further PLI-related documents and suggested short-cuts to reading and understanding them.

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suggested short-cuts to reading and understanding them. One of the links is to a PLI "Frequently Asked Questions" list. We suggest that this document is passed on to your FAS backup contacts.

We also strongly recommend that you identify someone in your society to read and understand FAS PLI, to keep up to date with new PLI information and to disseminate relevant PLI to the rest of the society – for example to society members who do outreach activities.

Editorial

I apologize for the lack of Newsletters over the last year. The FAS is still struggling to keep together and we have had a very large turnover of council members over the last 12 months or so. Hopefully the new council elected in September will prove more stable. Following on from this it is however likely that we are going to be looking for a new Newsletter editor and somebody to produce the Astrocalendar at the AGM so any volunteers would be welcome. As the president has noted in his column we are going to be bringing out some new guidance documents in the next 6-12 months that hopefully will be of use to societies. We are also working on having an AGM/Conference in early September, probably in Cambridge. This will avoid the main star parties hopefully.

Joint SAF-SHA Spring Conference

12 – 13 April 2019

St Annes's College, Woodstock Road, Oxford, OX2 6HS

Speakers include:

Bill Sheehan *Discovery of the Outer Planets*

Ian Ridpath *Pictures in the Sky: History of the constellations.*

Bob Bower *A Tale of Three Williams: Mirror making/ testing methods of Herschel, Rosse & Lassell*

David Valls-Gabaud *Herschel's least-known large Telescope*

The Friday will include visits to sites of astronomical interest in Oxford & Evening Dinner.

Booking forms and more information Contact: SHA Chairman Gerard Gilligan.

meetings@shastro.org.uk

The Dark Skies of Galloway and the Ayrshire Coast

Phil Williams Liverpool Astronomical Society

The southwest of Scotland contains some excellent dark sky locations for astronomical observation. A particularly notable site is the Galloway Forest Dark Sky Park which was the first recognised Dark Sky Park in the UK and has been awarded Gold-tier status by the International Dark Sky Association. Sited within the park, on an impressive hilltop location and close to Loch Doon, is the Scottish Dark Sky Observatory (S.D.S.O.) The nearest village to the observatory is Dalmellington which stands 600 feet above sea level and is scattered over a hillside. The village is the self-proclaimed and proudly signposted "Village in the Stars".



The Scottish Dark Sky Observatory, Galloway Forest Dark Sky Park (Courtesy S.D.S.O.)

The S.D.S.O. is a publicly accessible observatory and holds regular organised observing sessions and astronomy talks by experienced astronomers. It should be noted that visits to the observatory must be booked in advance. The observatory houses a 20-inch Corrected Dall Kirkham telescope in a 5 metre dome and a 14 inch Schmidt-Cassegrain telescope. The Observatory has recently completed construction of an extension to house a mobile inflatable planetarium.



The Scottish Dark Sky Observatory at sunset (Photo Credit: P.Williams)

The planetarium is an important outreach and educational resource which is taken to both primary and secondary schools, and to any interested groups or clubs throughout the region.

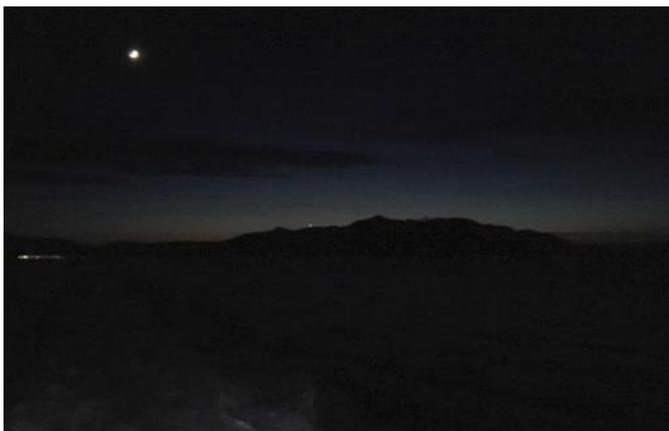
The observatory is situated close to Loch Doon, a freshwater loch which receives water from the Galloway hills and from which flows the river Doon. The area surrounding the loch contains a number of particularly good sites for astronomical observation. In addition to the recognised dark skies of the Galloway forest a number of sites on the Ayrshire coast provide very good locations for observation when skies are clear. The coastline south of Ayr

between the villages of Dunure and Maidens is noteworthy in this respect.



Canis minor, Gemini, Auriga and Orion above the S.D.S.O.
(Photo Credit: J.Williams)

To the west of the Ayrshire coast is the Isle of Arran which is approximately 20 miles from the mainland and is another excellent dark sky area. The profile of the north Arran hills as seen from the Ayrshire coast is referred to as the "Sleeping Warrior", as it resembles a resting human figure. The image below was taken from the CalMac ferry travelling from Arran to Ardrossan and shows Venus setting over the island.



Venus setting over the Isle of Arran off the Ayrshire coast (Photo Credit: M.Williams)

The southwest of Scotland contains some magnificent scenery and in a number of locations offers excellent views of the night sky when



Canis Major, Lepus and Orion above Dunure Castle (Photo Credit: J.Williams)

Hubble sees dying galaxy

The rough-and-tumble environment near the center of the massive Coma galaxy cluster is no match for a wayward spiral galaxy. New images from NASA's Hubble Space Telescope show a spiral galaxy being stripped of its gas as it plunges toward the cluster's center. A long, thin streamer of gas and dust stretches like taffy from the galaxy's core and on into space. Eventually, the galaxy, named D100, will lose all of its gas and become a dead relic, deprived of the material to create new stars and shining only by the feeble glow of old, red stars.

"This galaxy stands out as a particularly extreme example of processes common in massive clusters, where a galaxy goes from being a healthy spiral full of star formation to a 'red and dead galaxy,'" said William Cramer of Yale University in New Haven, Connecticut, leader of the team using the Hubble observations. "The spiral arms disappear, and the galaxy is left with no gas and only old stars. This phenomenon has been known about for several decades, but Hubble provides the best imagery of galaxies undergoing this process."

Called "ram pressure stripping," the process occurs when a galaxy, due to the pull of gravity, falls toward the dense center of a massive cluster of thousands of galaxies, which swarm around like a hive of bees. During its plunge, the galaxy plows through intergalactic material, like a boat moving through water. The material pushes gas and dust from the galaxy. Once the galaxy loses all of its hydrogen gas — fuel for starbirth — it meets an untimely death because it can no longer create new stars. The gas-stripping process in D100 began roughly 300 million years ago.

In the massive Coma cluster this violent gas-loss process occurs in many galaxies. But D100 is unique in several ways. Its long, thin tail is its most unusual feature. The tail, a mixture of dust and hydrogen gas, extends nearly 200,000 light-years, about the width of two Milky Way galaxies. But the pencil-like structure is comparatively narrow, only 7,000 light-years wide.

"The tail is remarkably well-defined, straight and smooth, and has clear edges," explained team member Jeffrey Kenney, also of Yale University. "This is a surprise because a tail like this is not seen in most computer simulations. Most galaxies undergoing this process are more of a mess. The clean edges and filamentary structures of the tail suggest that magnetic fields play a prominent role in shaping it. Computer simulations show that magnetic fields form filaments in the tail's gas. With no magnetic fields, the tail is more clumpy than filamentary."

The researchers' main goal was to study star formation along the tail. Hubble's sharp vision uncovered the blue glow of clumps of young stars. The brightest clump in the middle of the tail contains at least 200,000 stars, triggered by the ongoing gas loss from the galaxy. However, based on the amount of glowing hydrogen gas contained in the tail, the team had expected Hubble to uncover three times more stars than it detected.

The Subaru Telescope in Hawaii observed the glowing tail in 2007 during a survey of the Coma cluster's galaxies. But the astronomers needed Hubble observations to confirm that the hot hydrogen gas contained in the tail was a signature of star formation.

"Without the depth and resolution of Hubble, it's hard to say if the glowing hydrogen-gas emission is coming from stars in the tail or if it's just from the gas being heated," Cramer said. "These Hubble visible-light observations are the first and best follow-up of the Subaru survey."

Meetings Calendar

There are unfortunately a lot of meetings and it is difficult to fit them all in the calendar. This also applies to Star parties as well.

Below are some of the major events that I know about for the Spring/Summer/Autumn of 2019. If people are holding conventions/star parties and wish to include these then please let me know information and dates and I can try and publicise them. I understand that many people are not into the observing side of astronomy but this is what I have:-

Kelling Spring Equinox Star party main weekend 6th April 2019 details at <http://starparty.org>

TA AGM 13th April. Basinbgsstoke. Details at <https://www.britastro.org/rayleigh2019>

SHA Spring conference Saturday April 13th Oxford—details at <https://societyforthehistoryofastronomy.com/meetings/>

23rd April BAA out of Town meeting Rayleigh. Details at <https://www.britastro.org/rayleigh2019>

Webb Society AGM 15th June 2019 at IOA details at <https://www.webbdeepsky.com/>

SAGAS Summer convention Saturday 22nd June hosted by Wessex AS. Details at <https://www.sagasonline.org/2019/01/sagas-summer-convention-2019/>

SHA Summer Picnic 23rd June at the Norman Lockyer Observatory Sidmouth details at <https://societyforthehistoryofastronomy.com/meetings/>

SouthWest Astronomy Fair 10th August 2019 Details at <http://www.southwestastrofair.com/>

Kelling Autumn Equinox Star party main weekend 28th September 2019 details at <http://las-skycamp.org/index.php>

International Astronomy Show 15–16th November 2019. Details at <https://www.ukastroshow.com/>

SHA Autumn Conference/AGM 26th Oct at the Midlands Institute Birmingham details at <https://societyforthehistoryofastronomy.com/meetings/>

Kielder Autumn Star party 30th Oct–4th November 2019 see <http://www.sunderlandastro.com/star-camp/> for more information

Galloway Autumn Star party 30th Oct–4 Nov 2019 details see <https://stargazerslounge.com/topic/326109-galloway-autumn-star-camp-2019/>

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The Hubble data show that the gas-stripping process began on the outskirts of the galaxy and is moving in towards the center, which is typical in this type of mass loss. Based on the Hubble images, the gas has been cleared out all the way down to the central 6,400 light-years. Within that central region, there is still a lot of gas, as seen in a burst of star formation. "This region is the only place in the galaxy where gas exists and star formation is taking place," Cramer said. "But now that gas is being stripped out of the center, forming the long tail." Adding to this compelling narrative is another galaxy in the image that foreshadows D100's fate. The object, named D99, began as a spiral galaxy similar in mass to D100. It underwent the same violent gas-loss process as D100 is now undergoing, and is now a dead relic. All of the gas was siphoned from D99 between 500 million and 1 billion years ago. Its spiral structure has mostly faded away, and its stellar inhabitants consist of old, red stars. "D100 will look like D99 in a few hundred million years," Kenney said.



FAS Council 2019

As noted in the last newsletter the FAS has had some issues getting volunteers to run the organization. At the Last AGM we managed to get a full suite of officers. Unfortunately since that time four of them have had to resign for personal issues so the current Council is :-

Paul Daniels – President
Graham Bryant – Vice President
Peter Cooke – Treasurer
Roger Steer – Publications officer
Owen Brazell – Newsletter editor
Martin Baker – Webmaster
Richard Field – Secretary
Phillip John – Publicity officer
Tony Questa – PLI Secretary
William Bottaci – Membership secretary

Other members of council

Paul Hackett
James Hannan
Shaun O'Dell
D.J Evetts