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COMMISSION for DARK SKIES



PROTECT THE NIGHT

NEWSLETTER OF THE BRITISH ASTRONOMICAL ASSOCIATION'S COMMISSION FOR DARK SKIES

www.britastro.org/dark-skies

This twice-yearly newsletter now appears free of charge on the BAA website. Any queries from former subscribers:
contact.office@britastro.org

KEREM SHINES FORTH

National Park Dark Sky Officer Dani Robertson writes from the Dark Sky Reserve of **Eryri** (Snowdonia) that lighting consultant Kerem Asfuroglu's company **Dark Source** has done sterling work at the National Outdoor Centre at Plas Y Brenin, Capel Curig, in one of the most sensitive areas of North Wales. Kerem faced a real challenge to transform local lighting at this challengingly complex site, with work made even more difficult by the pandemic. Part of the building is listed, and the owners (Sport England) needed to make the site as friendly as possible to people arriving from cities and towns, often in the dead of night. The place had been a huge source of light pollution, impacting the wider Snowdonia. Kerem managed to meet all the demands on a very tight budget and according to Dani "has created something so special, we now use this site as an exemplar of good lighting practice. All lights are downward facing, fully shielded and 3000K or below". The scheme has saved the centre much on emissions and bills, with conservative estimates showing a saving of 2 tons of carbon a year and has won an industry award. Kerem is a CfDS committee member.

"There is no need to shine blue light on life at night."

This is the conclusion of a new CfDS leaflet by **Dr Robert A. E. Fosbury**, Bath and Surrounds Dark Sky Alliance. **Blue light and living things** is a brief but learned examination of the fact that "For billions of years, life has evolved to exploit the absence of blue light at night. Introducing it via high colour-temperature LED lighting results in damaging biological effects."

Dr Fosbury's credentials are impressive: Astronomer Emeritus, European Southern Observatory and Honorary Professor at the University College London Institute of Ophthalmology. See this informative and the authoritative new leaflet at <https://britastro.org/dark-skies/downloads.php>.

Graham Bryant, a co-founder and very hard-working member of the CfDS committee, passed away in June this year. Graham's contributions to our work across more than three decades were unstinting and inspired. He coined our key phrase "star-quality lighting". Graham's friendly and positive nature and his guidance in collaboration and making friends rather than confrontation still infuse all our work. The stars have lost a true champion.

Encouraging Star-Quality Lighting

The CfDS is pleased to welcome to its committee **Kate Earl**, who has done sterling work promoting astronomy in the Bournemouth and East Dorset areas, and **Phil Lucas**, who has for some time has been facilitating our Zoom meetings.

Art for dark skies

Proceeds to the CfDS

Go to
britastro.org/dark-skies/cfds_about.php?topic=art
to see our selection of paintings
for hire **at a rate you choose**.



Featured:
Night Thoughts
by **Kathryn Thomas**

*Cosmic-inspired forms and imagination merge to create a window into the experience of the macrocosm.
Framed limited-edition print, frame 74 cm x 73 cm.*

ON THE CAMPAIGN TRAIL

APPG of MPs for Dark Skies

The All-Party Parliamentary Dark Skies Group of MPs has a new co-chairman, alongside Astronomer Royal Lord Martin Rees. He is Peter Bottomley MP, who has long been interested in astronomy. At a recent meeting in Cambridge Lord Rees assured the CfDS that the APPG goes on with vigour and always seeks opportunities to make the case for better regulation of light pollution.

Energy prices bite

Interesting to see that some smaller football venues, for example Didcot Town FC and Mansfield FC, are debating changing fixtures to avoid using floodlights. A survey carried out by Fair Game, a football reform group, states that that 63% of 40 clubs polled – including 12 English Football League teams – said they would consider

earlier starts to matches to save money. In the survey clubs rated their concern about the cost-of-living crisis at 7 out of 10, rising to more than 8 out of 10 among League Two teams (*Guardian*).

White light – not right

One of the CfDS' most valued correspondents is statistician Dr Paul Marchant, formerly of LICAMM, University of Leeds. The conclusion of his recent paper (July 2022), in collaboration with Paul Norman (University of Leeds), *To determine if changing to white light street lamps improves road safety* is that "It remains an open question whether relighting with white light gives any improvement (or detriment) to road safety". Details of this intensive and reasoned study are at link.springer.com/article/10.1007/s12061-022-09468-w

DARK SKIES AROUND THE WORLD

Recent correspondence to the CfDS has come from Australia, Austria, Canada, France, Germany, Hong Kong, Italy, Ireland, Malta, Saudi Arabia, Slovenia, Turkey, the USA.

Hong Kong:

Our new Hong Kong correspondent, **Exodus Chun-Long Sit**, is an international committee member of the International Dark-Sky Association (IDA) and Co-National Outreach Coordinator and National Astronomy Education Coordinator (Chair of Hong Kong) of the International Astronomical Union. He published the popular science book *Decoding the Starry Night: A Guide to Stargazing and Astrophotography* in July 2021, including night-sky protection approaches and the latest research about urban artificial light at night (ALAN) in Hong Kong. Inspired by his recent public lecture of *Starless Starless Night: Impact of Light Pollution on Urban Life and Stargazings* in the Hong Kong Space Museum, he started a new knowledge-sharing platform *Astronomy Education Network* (<https://sitexodus.wixsite.com/astronomy/talks-workshops>), providing featured recordings of his previous presentations at the IDA global conference, dark-sky week and astronomical seminars. He has also featured in a news article *Don't pollute with light* by multiple experts from the Chinese community in Feb 2022, relating to light pollution issues in Hong Kong and dark-sky principles. (<https://bit.ly/3LGZ0MB>).

USA

In late September the DART (Double Asteroid Redirection Test) spacecraft was crashed into asteroid Dimorphos as the culmination of a NASA space mission aimed at testing a method of planetary defence against near-Earth objects. Gone are the days when, for example, MPs laughed out loud as MP Lembit Opik, descendant of a famous Estonian astronomer, brought up the subject of possible asteroid strikes in a Parliamentary session. CfDS supporter Colin Henshaw made the interesting point about skyglow:

"If we fail to prevent the next asteroid strike due to all-pervading global light pollution, then we will only have ourselves to blame. It is only a matter of time: not a question of if, but when. The apocalypse is out there, so we can't afford to be complacent. The dinosaurs and Chelyabinsk bear witness to that. As for those who refuse to act against the current epidemic of global light pollution, there are none so blind as those who cannot see".

Worldwide: best observing sites

As Covid releases its bite and world travel begins to be a reality for many, the Commission for Dark Skies is receiving a growing number of requests for information about the best observing sites for places as near as Birmingham (prospects not great from the city centre) and as far away as Mongolia (undoubtedly better). One resource we have never mentioned but is worth a visit is **Dark Site Finder**

<https://darksitefinder.com/maps/world.html#2/42.4/8.1>

based on light pollution data updated by David Lorenz and based on original data from **The World Atlas of Artificial Night Sky Brightness** by P. Cinzano, F. Falchi, and C.D. Elvidge. The site has links to a Sortable Dark Site Listing, Adding A New Dark Site, How to See the Milky Way, How to See the Aurora and Other Astronomy Links.

UK-Europe

A recent study by Exeter University concluded that "The nighttime environment of much of Earth is being changed rapidly by the introduction of artificial lighting. While data on spatial and temporal variation in the intensity of artificial lighting have been available at a regional and global scale, data on variation in its spectral composition have only been collected for a few locations, preventing variation in associated environmental and human health risks from being mapped". The study used imagery obtained using digital cameras by astronauts on the International Space Station to map variation in the spectral composition of lighting across Europe for 2012–2013 and 2014–2020. "These show a regionally widespread spectral shift, from that associated principally with high-pressure sodium lighting to that associated with broad white light-emitting diodes and with greater blue emissions. Reexpressing the colour maps in terms of spectral indicators of environmental pressures, we find that this trend is widely increasing the risk of harmful effects to ecosystems." <https://www.science.org/doi/10.1126/sciadv.abl6891>

Dividing the light from the darkness

Many of our correspondents comment on floodlighting of public and heritage buildings, especially as it is normally poorly aimed, spilling into the night sky, and on when few are likely to see the effect, wasting energy and money and accelerating climate change. Good to hear, then, from observers in Cornwall that Truro Cathedral's floodlights have been switched off to help the environment. Canon Elly Sheard said this was "a worthwhile start on the cathedral's journey towards reducing its carbon footprint to zero. The decision to cease floodlighting the cathedral has been taken more on environmental grounds than on the grounds of the costs of either repairs or continued use. According to my rough calculations, the cathedral floodlights as currently used emit roughly 2 tonnes of CO₂ per year." Our photo shows a rather smaller parish church that draws attention to its fine windows in the evening with a modest light left on inside.



Photo: CfDS

New stocks of the CfDS' 40-page A4 handbook '**Blinded by the Light?**' are available. Prices: **£3.50** direct purchase without postage; **£5.00** (incl. postage) for UK, and £3.50 each extra copy. Contents include: The Environment Problem, The Disappearing Universe, Environmental Aspects, Lighting and Crime, Light Pollution and Human Health, The Cold Light of Night: LED Lighting, Action that can be taken about Light Nuisance, Monitoring Light Pollution, Bad Lighting – the Problems. Appendices: Lighting Assessment Principles and a sample letter for complainants about poor-quality lighting. **Hidden Stars**, our new A5 12-page children's guide to protecting the starry sky, is also available. It is designed for older primary and all secondary levels and is beautifully illustrated by CfDS committee member and graphic artist **Kerem Asfuroglu** and by astrophotographers who support the cause. **£2.50** inc. postage. Contact Bob (see below) to order.

CfDS Fighting Fund

Standing orders or donations are always welcome. Please notify Bob Mizon on 01202 887084 if you can support the CfDS in this way.

CfDS thanks recent donors: Anon., Archant, Gerry Bond, Matt Bray, Sean Clarke, Bill Cobb, James Dawson, Matt Dugas, James Fradgley, Gerard Gilligan, Jane H., Richard Howson, Richard Sargent, Alan Snook, Bob Stuckey, Steve Tonkin, BAA Winchester Weekend crowd, Wessex AS. Apologies to any donor inadvertently omitted.

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Contact the CfDS

Queries, comments and donations to the CfDS can be made via the form on www.britastro.org/dark-skies/enquiries.php

You will be directed to an appropriate member of the CfDS team.

The website for the new UK Dark Skies Partnership, which includes the CfDS, is now live.

ukdarkskies.org.uk

The partners in this new venture, mostly National Parks and AONBs, raise awareness among the general public and in Parliament of the need to curb light pollution. Website pages feature strategies, documents and links.

www.spacerocksuk.com supports the CfDS. Meteorites, tektites and impactites: Sikhote-Alin, Canyon Diablo, Barwell, lunar meteorites, Martian meteorites...