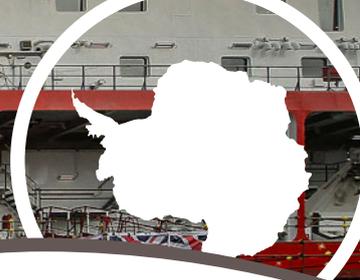


ICESHEET

The British Antarctic Survey Internal Newsletter



Sep-Oct 19
#104

A Day (Or Three) To Remember

History was made in September when RRS *Sir David Attenborough* was officially named by the Duke and Duchess of Cambridge, presided over by Sir David himself (guess who got the biggest cheer from the crowd!).



It was an amazing three-day event, with

over 10,000 visitors, including 600 stakeholders, many from overseas. The celebrations started early with a very successful business breakfast that discussed how science can work with industry to meet the 1.5°C climate challenge. We need innovations for greener and more sustainable ways of working.

It was also a truly mammoth effort of organisation by BAS

and Cammell Laird staff. Many thanks to Linda and her team who looked after almost 70 journalists, who wrote over 3,000 press articles. Social media articles were shared 54,000 times.

Huge thanks also to the many BAS, NOC and BGS staff who manned the Ice Worlds exhibits and dealt with excited families and children, some of whom returned for repeat

Director's Office

visits! Over 1,500 energetic and enthusiastic local school children enjoyed the exhibits and packed out the public talks. Judging from the ear-splitting level of their excitement they had a fantastic time.

I hope that many were so excited by the science that they will become scientists and engineers of the future to help save our planet.

Professor Dame Jane Francis

RRS *Sir David Attenborough* Royal Naming Ceremony

BAS ships



▲ *I name this ship RRS SDA!*

Our royal ship-naming event on 26th-28th September was the third milestone in the multi-partner campaign to promote the commission, build and operation of RRS *Sir David Attenborough*. It was a perfect opportunity to showcase an incredible engineering and technology journey, and to introduce members of the



▲ *Waving from the heli-deck*

public, journalists and business stakeholders to some of the skilled and talented people who will operate the ship and carry out a huge variety of polar science on board.

This was a hugely ambitious event. In just 12 weeks we transformed the shipyard's car park into a science festival;



▲ *The three-day event was a great success for everyone involved*

mounted a live-streamed multimedia operation; mobilised 180 schoolchildren to be penguins for a day; and set up a programme of public talks and a series of events for business and corporate stakeholders. We were able to pull this off thanks to our colleagues in BEIS, UKRI and NERC. Our partnership with Wirral Borough Council helped us connect with local

schools and The Engineering College opened its doors for our Business Breakfast.

So many people contributed – too many to mention. Our science and support teams were inspirational; Captains, officers and crew of the SDA were truly outstanding. Well done everyone.
– Linda Capper



▲ *Drummers at the gala dinner*



▲ *HRH and the penguin parade*



British Antarctic Survey

NATURAL ENVIRONMENT RESEARCH COUNCIL

Pre-Deployment Training 2019



▲ The programme lasted several days and had over 150 attendees

Over 150 people came through our doors at BAS Cambridge this year as part of the annual Pre-Deployment Training programme. It was a mixture of new BAS station staff, returning AEP staff and new BAS Cambridge staff, as well as our collaborators and external visitors.

We covered topics such as 'learning from accidents', 'station life' and biosecurity as well as introducing some sessions on welfare and building a culture of respect. This season we will send just

over 100 BAS station staff down to join the 35 winterers from the 2018/19 season, to work on station and out in the field helping to keep the stations running and the science supported.

Thanks to everyone involved in the Pre-Deployment Training programme, it was great to see the delegates so enthused and to welcome back our returning staff from the Antarctic Employment Pool. Hope you all have a safe and enjoyable season.

– Hana Leithgoe

Dash 7 Aircraft Maintenance

Each year, additional to in-service maintenance, the entire BAS aircraft fleet heads north to contracted maintenance providers in Canada for detailed scheduled inspections, and to adopt modifications resulting from in-service experience and to meet future science needs ahead of the next season.

The Dash 7 is shown at the maintenance provider's facility in Ontario at the end of the 2019 maintenance input in final preparation for departure.

– Mark Thomas



▲ The Dash is in for a service

Sea-Ice Science At Rothera



▲ The Rothera marine team (including an inquisitive crabeater seal)

So far it's been a fantastic year for sea ice at Rothera, with six CTD and water-sampling events and nine dives all taking place out on the ice (we are still hoping for more). The ice became good enough for travel in July and since then we have been using all of the weather windows available to go out and explore this new landscape.

Being able to go out and work on the ice is hugely beneficial

Rothera Photo Competition

As anyone who has ventured south will be able to confirm, there are photo opportunities galore. The stunning landscapes, the charismatic mega-fauna and the classic polar hero shots were all well represented in the Rothera winter photo competition, held just before the first Dash flight of summer.

Images ranged from tiny krill to huge iridescent polar stratospheric clouds and everything in between. With such a collection of amazing pictures, selecting a winner was a tough call, but finally we settled on Bav's picture of a solitary emperor penguin as this year's overall winner.

– John Law



▲ The 'so sad lost emperor' photo was declared the winner

BAS science

are changing with respect to environmental changes.

Hopefully we will have many more adventures out on the ice, but for now thanks goes to everyone who has been supporting the marine team. Whether you've come out with us, been on standby for the hyperbaric chamber or fixed the many things that have broken along the way... your help is very much appreciated.

– Zoë Waring

for the RaTS (Rothera Time Series) project. The CTD and water sampling gives a unique insight into the sometimes dramatic stratification of the surface layer which, without the ice, would be a thoroughly mixed homogenous layer.

By diving through the ice we are able to continue the monthly biological collections allowing for a deeper understanding of how certain species reproductive systems



▲ Upside-down under the ice

JCR's Final Refit At Orskov Yard



▲ This stunning painting by Anna Dillon was presented to the yard

Friday 4th October was the last 'morning meeting' at Orskov shipyard in Frederikshavn, Denmark. The meeting, used to discuss progress or problems with the refit work, was the perfect time to present a momento of all our years of attendance at the Danish Shipyard.

After nine years of RRS *James Clark Ross* attending each year, we have become firm friends with many of the folks in Frederikshavn, and they have become firm favourites of ours. Nothing is ever too much trouble, reflected in the quality and speed of their work.

BAS ships

As a token of our appreciation, Captain Tim Page made a presentation of a painting of the JCR by artist Anna Dillon, which was nicely framed and handed over to the Project Manager Hendrik Jensen. 'Thanks' or 'Tak' ensued and it is sad to think it is the last time this crew will get to spend a refit in Orskov.

RRS *James Clark Ross* is not due to have another refit as it is to be sold off after the forthcoming Antarctic season 2019/20.

– Steve Stiglic-Buxton



▲ Tusind Tak Hendrik!

IPCC Report Published

Hundreds of scientists and government representatives met in Monaco to finalise the new Intergovernmental Panel on Climate Change (IPCC) Special Report on the Ocean and Cryosphere in a Changing Climate. Approved on 24th September by the 195 IPCC member governments, the report provides new evidence for the benefits of limiting global warming to the lowest possible level – in line with the goal that governments set themselves in the 2015 Paris Agreement.

BAS Polar Oceanographer Prof Mike Meredith led the Polar Regions chapter of the report which is now publicly available for download here: www.ipcc.ch/srocc/download-report.

– Jamie Oliver

Safe, Effective Polar Fieldwork



▲ Hands on practical session

We ran our BAS Advanced Training Short Course for the fourth time from 21st August to 3rd September. Ten PhD students from across the NERC community took part, and the course commenced with three days' intensive theoretical and practical work in the AURORA Innovation Centre. How do you plan a polar field season from the very beginning; how do you do this safely, keeping the costs down but making sure that you employ best practice and protect the environment? Hands-on practical sessions are very much to the fore, using BAS experts and real examples from both poles.

We then decamped to the NERC Arctic Station at Ny Ålesund for a full week of field activities based around a geophysical survey of the Midrelovenbreen Glacier and a marine biological survey of Kongsfjord. No polar bears but several minke whales!

This course remains extremely popular and so far we have trained over 50 NERC PhD students on it. It represents a genuine collaboration between BAS science, operations, MAGIC and the Environment Office, and we would like to thank all BAS staff who make it possible. We are already working on the 2020 course!

– Alistair Crame



▲ Fieldwork in Svalbard

New BAS Fire Safety Adviser



▲ Tim Jackson

Here at BAS we take Fire Safety very seriously and to back this up, part of my role as Facilities Engineering Manager is to be BAS Fire Safety Adviser.

Over the past eight months I've been busy gaining qualification in fire risk assessments and fire safety, and rewriting the old fire safety policy – now called the 'BAS fire management plan'. This is now available on the digital workspace, so please take the time to read it. Over the next 12 months I will either be reviewing or conducting fire

risk assessments for both the Cambridge and south sites, working with Estates teams to make BAS a safer place. This involves delving into all the nooks and crannies of our site, so please don't be alarmed to find me in your workspace or store, or asking for the keys. Housekeeping and storage is a big challenge on all sites so please be mindful of your workspaces and the storage of flammable material and the use of ignition sources.

If you have any queries related to fire safety, please do drop me a line.

– Tim Jackson



▲ Reviews both here and south

New Marie Curie Fellow At BAS



▲ Stefanie Mack

Greetings, BAS folks! I have just transitioned from a cold and rainy Seattle to a somewhat less cold and rainy England, thanks to the warm welcome from everyone here.

I am excited to be here as a Marie Curie Fellow, working on a project called Antarctic Cyclones: Expression in Sea-ice (ACES). The general objective of ACES is to investigate the effect Antarctic cyclones have on sea ice in the Amundsen

Sea sector, and how the cyclone-sea ice interaction affects the ocean. The plan is to start by using atmospheric reanalysis products and sea-ice drift data sets to concurrently track cyclones in atmosphere and ice. Once I can characterise an individual cyclone, I will investigate the ocean's response to the atmosphere and sea-ice state with a model. The final project objective is to create parameterisations of individual cyclones and, by using these in regional and climate models, determine the effect of cyclones on the Antarctic climate system.

It's a lot to do in two years. By combining my background in ocean modelling with support from collaborators at BAS and in the EU, I think we can do some excellent science.

– Stefanie Mack

Science Paper Of The Month

Nature and timing of biotic recovery in Antarctic benthic marine ecosystems following the Cretaceous-Palaeogene (K-PG) mass extinction

The Cretaceous-Palaeogene (K-Pg) extinction, which occurred 66 million years ago, wiped out ~60% of the marine species around Antarctica, and 75% of species around the world, including the dinosaurs and the ammonites. It was caused by the impact of a 10km asteroid on the Yucatán Peninsula, Mexico, and occurred during a time when the Earth was experiencing environmental instability from a major volcanic episode.

Rapid climate change, global darkness, and the collapse of food chains affected life all over the globe, changing the evolutionary history of life on

Earth. Animals that dominate modern ecosystems, such as mammals, can trace the roots of their current success back to the event aftermath.

We collected and studied just under 3,000 Antarctic marine fossils to understand how life on the sea floor recovered after the extinction. For over 320,000 years, only burrowing clams and snails dominated. It took up to one million years for the number of species to recover to pre-extinction levels. This study gives us evidence of how rapid environmental change can affect the evolution of life. Our results show a clear link in the timing of animal recovery and the recovery of Earth systems. The effects were truly global, and Antarctic ecosystems were affected for hundreds of thousands of years.

– Rowan Whittle

BAT Stamps & Project Funding

When the UKAHT open up Port Lockroy this season, four new British Antarctic Territory (BAT) stamp issues will be available. BAT are marking 200 years of the Discovery of Antarctica, 100 years of SPRI, the changes at Port Lockroy (75th anniversary earlier this year), and an iceberg set. These will be available from www.falklandstamps.com. Income from the stamps gets reinvested back into the running of BAT and supporting a range of projects. You can bid for BAT project money at: <https://britishantarcticterritory.org.uk/about/strategy-and-project-funding>.

– Eleanor Floyd (FCO)



▲ Some of the new stamps

KEP Wharf Redevelopment



▲ The teams enjoyed a three-day teambuilding event on Anglesey

Mobilisation for the KEP wharf redevelopment is now fast approaching and in preparation, a pre-deployment teambuilding event was held on Anglesey from 21st-23rd October to allow the whole team to get to know each other before heading south. In total, 27 delegates attended including all of the BAM construction team, the Ramboll site supervision team and the BAS wintering and project support teams.

Activities included a quiz, coasteering, abseiling, climbing and orienteering – we even had a grey seal join us for the

afternoon coasteering session! Everyone had a good time and we have the makings of a cracking team down at KEP for the construction of the wharf.

Manufacture of components is moving at a fast pace and the Marshalling Point at Teesport will soon start to fill with materials, plant, equipment and machinery, ready to be loaded onto the logistics vessel, the *Billesborg* ready to sail around 22nd December. The first project staff will leave soon with the BAS wintering team, ready to start construction in early January.

– Joe Corner

Walk The Walk Fundraising

In September, Vicki Leslie, a steward on the JCR, took part in the Disneyland Paris 36K Challenge weekend to raise awareness and money for 'Walk the Walk', the UK's largest grant-making breast cancer charity. The challenge consisted of three races, a 5K, 10K, and a half marathon (21K) all in the same weekend. More info at <https://walkthewalk.org>.

Vicki has so far raised £714 and the team as a whole have raised nearly £11,000! If you would like to sponsor Vicki then her fundraising page is <https://disneylandparis2019.everydayhero.com/uk/vicki#>

– Jamie Oliver



▲ The five challenge medals

Hut Holidays And Mini Breaks

BAS stations



▲ There are a number of huts on South Georgia

With summer fast approaching at KEP, zoologist John, and I decided to take a few days away from the station before the higher predator work kicks into full gear. Our winter team take full advantage of the huts on South Georgia, allowing us to get out and about and explore more of this amazing island than just a day trip allows.

The huts range from a simple outer shell of weather protection to a homely four-bed complete with gas cooker and food store. Our most recent trip was based out of a hut that's a RIB-ride away from KEP. With glorious weather on day one we donned skis and snow shoes to stretch our legs and find the perfect vantage point of fjords and glaciers. The

cosy, Tilley-lamp-heated hut really came into its own the next morning when we woke to the sound of sleet and wind.

Making the most of the uninviting weather, hut naps and crosswords, fueled by binge drinking tea and hot chocolate, were a lovely way to spend our mini-break morning. Naturally, the weather did a full turnaround by day three and another sunny day meant for more stomping about in the snow with the courting giant petrel pairs and noisy elephant seals, before our afternoon pick up back to the station.

Hut holidays are a fantastic way to feel like you have had a change from island life and a break from routine, which is so valuable in our little island community.

– Allie Clement

Shaping Future Of Protection

Large parts of Antarctica have no Antarctic Specially Protected Areas. The Antarctic Treaty System's Committee for Environmental Protection and the Scientific Committee on Antarctic Research (SCAR) held a workshop in Prague on the future of the Antarctic Protected Areas system.

Kevin Hughes, Susie Grant and Pete Convey have considerable practical management and research expertise relevant to area protection and attended the meeting on behalf of the UK and SCAR. The recommendations from the workshop were endorsed by the Antarctic Treaty Parties, paving the way for a major overhaul of the system to make it more representative and systematic.

– Kevin Hughes

Oxford Meeting For Thwaites

Over 60 UK and US researchers and logistics staff (with many from BAS) came together in Oxford from 16th-19th September for the annual meeting of the International Thwaites Glacier Collaboration.

Discussions centred around this year's first big season in the deep field on Thwaites Glacier and the cruise on the US icebreaker *Nathaniel B Palmer*. You can find out more about the International Thwaites Glacier Collaboration here: www.thwaitesglacier.org.

– Athena Dinar



▲ Over 60 people attended

BAS Student Symposium 2019

BAS students



▲ BAS students could showcase their work and network

The annual BAS student symposium was held on 24th and 25th October. This event brings together all BAS-affiliated students whether based in Cambridge or elsewhere. Students presented their research in short talks and posters, and for the more creative students there was a return of the excellent 'Bake Your PhD' contest!

Awards were given to Ellie Bowler for best talk (using deep learning to count

albatrosses from space) and James Kirkham for best poster (ultra-high-resolution 3D seismic insights into tunnel valley evolution and infill), and Arlie McCarthy won the coveted best cake award for her representation of the JCR with 'biofouling' samples.

Alistair Crame welcomed the students and gave a short introduction to student life at BAS. Keynote presentations were given by Lloyd Peck and Jane Francis describing their

respective work on 'Life in cold extremes: adaptation of Antarctic marine invertebrates and fish' and 'Polar paradox: when Antarctica was green'. The event was an opportunity for BAS students to showcase their work and network with each other. Talks and posters showed the breadth of science carried out across BAS, and the variety of interests covered by BAS's student body.

This event is held annually in late October and all staff are always welcome to attend. A programme is usually made available in the weeks leading up to the symposium.

– Matthew Chadwick



▲ Arlie and her winning cake

Remote Russian Weather Stations



▲ *The alpine tundra AWS*

During August, four automatic weather stations (AWS) were successfully installed in the Khibiny Mountains, located in the Kola Peninsula in Arctic Russia. The deployment forms part of a project entitled, 'Multiplatform remote sensing of the impact of climate change on the northern

forests of Russia', which is jointly-funded by the British Council and Russian Ministry of Science and Education. It is a collaborative effort between BAS and SPRI in the UK, and the Geography Faculty at Moscow State University and the Institutes of Space Science and Geography, in Russia.

The equipment was deployed along a transect on the side of a mountain through different ecological zones, from mixed forest at lower elevations, moving up through the treeline and then finally up to the alpine tundra.

The meteorological data will be employed to examine how changes in local climate, such as temperature and snow-cover duration, impact plant success in this warming Arctic region.

– Gareth Marshall

Lloyd Peck In New Zealand

I recently spent two weeks in New Zealand discussing Antarctic science priorities and briefing politicians including the Mayor of Christchurch, the German ambassador and the Belorussian Honorary Consul on climate change and its impact on biodiversity, with special reference to Antarctica.

I also spent time running from a cave troll whilst brandishing an elven sword at the Weta Workshops in Wellington who did the special effects for the Lord of the Rings/Hobbit films.

– Lloyd Peck



▲ *It's behind you!*

Cadet Life Onboard The JCR



▲ *The JCR's four cadets*

Upon arrival in Aberdeen, Luke, Max and I made our way to the *James Clark Ross*. We were greeted by captain Chapman's team and shown around the vessel, where we were taken aback. Our first thoughts, however, were the realisation that the layout of the ship may take some time to get used to and what stunning condition the ship is in for being 29 years old.

A cadet shadows the operations of the crew and

AIMP Partnership Challenge 2020

Following on from the hugely successful Cambridge to The Hague cycle challenge in 2017, and the mammoth Fisherfield six hill-walking challenge this year, we have provisionally organised our challenge for 2020. We have booked the 24-bed Glen Affric Youth Hostel from 18th-20th June 2020. Glen Affric is arguably the most beautiful glen in Scotland, about an hour west of Inverness.

The challenge is to walk or mountain bike (or ride a horse t.b.c.) the eight miles to the hostel on the Thursday, complete either the easy, moderate or extreme hill-walking expedition or a mountain-biking expedition on the Friday, participate in the celebratory dinner and ceilidh on the Friday night, and then walk, cycle or ride the eight miles back out on the Saturday.

We will be fundraising for a charity (currently undecided).

This challenge is not just for those directly involved in the construction projects, everyone is invited. However, we can only accommodate 24 so if you're interested or have any questions please contact David Seaton for information and to reserve your place. We expect a good representation from BAM, Ramboll and our other partners.

This challenge is not aimed at elite athletes but anyone taking part does, as a minimum, need to be able to negotiate the eight miles to/from the hostel.

– David Seaton



▲ *Glen Affric – a scenic marvel*

BAS ships

officers, becoming integrated into the work that is carried out onboard. We report to the Chief Officer and Second Engineer who monitor and track progress to ensure continuous learning is undertaken.

We departed on the Sunday morning bound for Scapa Flow, where we were able to experience the science capability of the JCR, with the testing of equipment being carried out. I was impressed, experiencing how quiet and how little vibration the ship exerted whilst holding position for the acoustic trials.

The next port call came at refit in Frederikshavn, Denmark. We were joined by Jake the Engine Cadet, who joined late and was thrown straight away into the refit. This was an extremely busy time but altogether an extremely engaging and useful experience

for us all. By being able to get 'stuck in' and undertake operations that, as a cadet, you only get to experience once, we had some great learning opportunities. Not only was the work interesting but the team onboard were in excellent form and made the time that much better.

Harwich came about all too quickly and cargo was being loaded into the ship's holds within 30 minutes of arrival – there was no loitering about here. The days were long but the combined efforts of everyone got the cargo loaded in record time.

Upon departure from Harwich, we called in at Portsmouth to load AVCAT fuel before starting the long journey south. This will give us plenty of training opportunities as well as enjoying the time that we have left onboard.

– Jacob Bennett

Place-Name Of The Month – #5 I

Antarctica

October 16th was the 200th anniversary of William Smith's first landing on the South Shetland Islands, marking the UK's first step in Antarctic exploration. In February 1819, Smith made the first recorded sighting of what are now the South Shetland Islands. It is thought he first saw an area on Livingston Island; it is now known as Williams Point, named after the ship *Williams* from which the sighting was made. Smith's landing on the

South Shetland Islands later that year was thought to be at Esther Harbour, on King George Island, and he took possession of the island in the name of King George III.

Upon his return north, Captain Shirreff chartered a naval party led by Edward Bransfield, which led to the initial sighting of the Antarctic continent on 30th January 1820. These names are reflected in the place names of the region;



▲ The South Shetland Islands were first spotted 200 years ago

Smith Island is named for William Smith, Cape Shirreff named for Captain Shirreff, and Bransfield Strait is named for Edward Bransfield.

Initially named New South Britain in 1819, the South Shetland Islands were renamed by Smith as the islands lie in roughly the same latitude as the Shetland Islands in the Northern Hemisphere.

The Mapping and Geographic Information Centre has published an updated version of the 1:200,000 scale map of the South Shetland Islands to mark this anniversary; it will be available from mid-November. If you would like to learn more about place-names in the British Antarctic Territory, please see the Antarctic Place-names Committee website at apc.antarctica.ac.uk.
– Elena Field

Laws Prize Lecture 2019

The 2019 Laws Prize winner, Dr Anna Belcher, gave her winner's lecture entitled 'The lure of krill: Climbing up the food chain and into space' on 28th October at BAS Cambridge. After the lecture, Prof Eric Wolff presented Anna with her engraved silver medal and prize money. Anna's work tackles a major issue in biological oceanographic science of how to balance the marine carbon budget and she is fast gaining a reputation for ground-breaking research in this field. Congratulations!
– Kate Smithson



▲ Eric Wolff and Anna Belcher

Biodiversity Food For Thought

The BAS Memorial Orchard is a great resource for both staff and biodiversity, and on 23rd September we held an apple-picking day. A dozen staff came along and picked apples for themselves, as well as two bags that we left in the Icebreaker for everyone to share – hope you enjoyed them! As well as the orchard, the Cambridge site is full of food resources for other wildlife.

In mid-September there were nine different bushes fruiting. Most of these are not suitable for humans, although the bramble (blackberry), rosehip and elder are edible but not

necessarily recommended. The others: hawthorn, sloe, dogwood, cotoneaster, guelder rose and spindle, should not be eaten. The local birds and small mammals think differently. These berries provide a vital autumn food source for them, high nutrition parcels to see them through the cooling winter days. Mice will take berries and stash them away in their home – an old birds nest or similar – for use later in the winter. At the same time, the ivy is flowering, the last nectar for bees before winter, and the ivy berries will be ready mid-winter, the last of the fruit for our wildlife.

These berries often look great, with the autumn colours developing on the leaves, too, so it's a great time to get out and take in the wonders of the wild harvest on site for the birds and animals with whom we share BAS Cambridge.
– Louise Bacon



▲ Dogwood (left) and brambles

'Sounds of Space' Festival Of Ideas

The 'Sounds of Space' project was showcased at Storey's Field Centre, Eddington, on 25th October as part of the Cambridge Festival of Ideas. BAS space weather scientist Dr Nigel Meredith, explained the process of converting space radio waves to waveform audio and introduced the audience to the individual personalities of the 'sounds'; ranging from the charming Earth 'chorus' to the imposing and Halloween-appropriate sounds of Saturn.

Cambridge-based artist-engineer Diana Scarborough then described the creation of the accompanying animated soundscapes, which combined the 'sounds' with original video sequences and music from leading Australian composer, Kim Cunio. The talks were followed by an immersive performance as professional dancers explored the soundscapes through

contemporary dance. They moved through the audience and space as they responded to the sound-led, data-driven journey from Antarctica to beyond the galaxy.

The final, frenetic piece, featuring colliding neutron stars and merging black holes, was followed by a serene meditative experience featuring 'sounds' from the VLF receiver at Halley, images of the Antarctic and the beautiful piano music of Kim Cunio. The event concluded with an enthusiastic discussion panel to develop ideas for the next 'Sounds of Space' event.
– Nigel Meredith



▲ Dancers at the event

Antarctica & Arctic In Birkenhead



▲ Engineering in action

Over 10,000 people, including 1,500 schoolchildren, discovered Antarctica and the Arctic at the three-day Ice Worlds festival (see page 1). Crowds thronged inside two huge marquees set out with 16 interactive, immersive display areas. Scientists, engineers and support teams from BAS, National Oceanography Centre, British Geological Survey, Cammell Laird, and engineering companies, explained the excitement, importance and relevance of polar science and engineering. Over 55 members of BAS staff enthralled our visitors.

▲ A talk by the ship's Captains

We used the opportunity to introduce the Antarctic Infrastructure Modernisation Programme as part of the bigger story around the commission of the new ship.

Special thanks go to BAM, Ramboll and Sweco for not only putting on a great display but also for generously sponsoring corporate hospitality. Teachers left Ice Worlds clutching our educational and public information materials. The public talks were packed... excellent work everyone.
– Linda Capper

Rothera Construction – Season 2

The first of the BAM team have arrived at Rothera for the start of Season 2 of the construction works. It's a busy season! We plan to:

- Complete the new Rothera wharf
- Build the foundations for the new Discovery Building
- Start the works on the site services upgrade
- Install rock armour protection for the runway side slopes where repairs are required
- Quarry and prepare the surface material to allow us to reinstate the runway surfacing back to its original condition next season

Like last year, a huge amount of effort has been spent planning the works and integration with the station so hopefully construction, science and operations will co-exist harmoniously through until the

last of the team depart on the JCR in late May 2020.

The BAS team on station will recognise many familiar faces in the construction team. Most of them enjoyed last season so much they didn't require any convincing to sign up for another one. Also, they are keen to see the job through as the construction programme at Rothera is recognised as a unique opportunity for all involved to be part of something very special.

– David Seaton



▲ The first BAM team arrives

Pictures From The BAS Archives

Archive Image #78

John Warren wintered at King Edward Point in 1974 and 1975 where he worked as a 'beastie man' on the station ionosonde. Warren's duties included the maintenance of the lofty ionosonde mast,

which led to this pair of striking seasonal photographs from summer and early winter at KEP.

One of Warren's colleagues at the time was our very own

John Hall, then base diver and additionally, in 1975, Base Commander. A selection of Warren's photographs have recently been donated to the BAS Archives.

– Kevin Roberts



▲ Shackleton House in winter and summer at KEP (Archives ref: 2019/48)

And Finally...



▲ It's Sir David!

Overcome by the excitement of the naming ceremony for the new polar ship RRS *Sir David Attenborough*, BAS Director of Corporate Services Laura Dance, and Transformation Programme Manager Amie Jackson can't believe their luck when Sir David himself undertakes an impromptu walkabout.
– Jonathan Ager

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