

WINTER 2016

**A 'Jawsome' Time at
Into The Blue:
Samantha Hook a.k.a.
Sam Sharks reviews
the NERC exhibition**

**Life in the Field:
we hear from students in the
USA and Siberia
on page 3**



**Amy Kelly is in our Student
Spotlight on page 2**



GENERAL NEWS

Our 2016/17 students have now started their studentships and are busy settling into their new research groups. So here's a warm DTP welcome to Cohort 3!



Earth

Elliot Carter

Compositional heterogeneity in the oceanic mantle: insights from the halogen and noble gas systematics of ophiolites.

Rosie Cooper

Building soil carbon through grass and diversity.

Ben Esse

Mitigating volcanic ash risk with ultraviolet spectroscopy.

Michael Grapponne

Building prototypes for the next generation of the versatile paleomagnetic laboratory.

Nick Harvey

Can conservation physiology improve the population of rhinos?

Amy Hughes

Investigating volcanic flank instability and catastrophic sector collapse.

Maddy Moyle

Landscape P budgets and modelling for the Shropshire Meres

Teo Nagy

Proglacial landscape conditioning of Jokulhlaup impacts.

Zoltan Taracsak

Volcanological applications of the SO2 Camera.

Matthew Varnam

Melt generation, mixing and degassing at el Hierro, Canary Islands.

Atmosphere

Ty Buckingham

Convection: Dynamics, Forecasting and Impacts.

Charlotte Coombs

Characterisation of modern aircraft gas turbine volatile particulates and their impact on the environment.

Liz Forde

Improved algorithmic methods for identification of biological airborne particulate matter.

Archit Mehra

Investigating particulate pollution in a Chinese megacity.

Rutambhara Joshi

New instruments and data analysis for studying sources of pollutant aerosols in Beijing.

Waldemar Schledewitz

Analysis of single ice crystals in halograms.

Adil Shah

Measurement of greenhouse gasses using unmanned aerial vehicles.

Jess Slater

Quantifying feedbacks between pollution smog, radiation and dynamics in a polluted megacity,

Ocean

Liping Ma

How does atmospheric jet stream position and blocking affect the North Atlantic Ocean?

Ben Phillips

Future vulnerability of evolving gravel barriers.

Shaun Rigby

What controls the distribution of iron?



GENERAL NEWS



A FEW WORDS FROM

Nick Harvey | 1st Year | Manchester

"As I grew up close to Chester Zoo, I was looking forward to starting my working relationship with both the research and keeper teams there and getting a look at what goes on behind the scenes. I have started my lab training there with Sue Walker, the Head of Applied Science and one of my supervisors. More exciting for me (sorry Sue!) was the day that I was fortunate to spend with the keepers on the rhino section. The keepers who were kind enough to show me around for the day taught me a lot about husbandry of these animals and the logistics behind running a captive breeding program."



The North of England Conservation Symposium will be held at Chester Zoo in April 2017. Attendance is by Invitation only so watch this space!

COMMENDATIONS

Louise Hawkins | 3rd Year | Liverpool

The paper *Microwave paleointensities indicate a low paleomagnetic dipole moment at the Permo-Triassic Boundary* has been published with Louise as the second author. You can find it here:

<http://dx.doi.org/10.1016/j.pepi.2016.09.007>

Callum Thompson | 3rd Year | Manchester

Callum won Best Presentation for his talk at the 2016 Royal Meteorological Society Student Conference.

MEDIA MENTIONS

Our very own Prof David Schultz has made an appearance on BBC series 'Dangerous Earth' which you can now watch on BBCiplayer.

NERC VISITS

On 4th November, we had a visit from NERC's Training Advisory Board as part of their DTP Evaluation process. The visit appeared to go well; we had pleasant and useful discussions in our groups which were made up of:

- Lead organisation – several school and faculty staff
- Host partners – staff from SEOES and NOC
- External partners – BGS and NCAS
- DTP Students

We will receive feedback on how our visit went in February and would like to thank everybody who contributed to the day.

GOOD NEWS

From all of us here at the DTP, congratulations to Thea Wingfield on the arrival of baby Arlo!



ASSOCIATE PARTNER NEWS



SEA LIFE

Sea Trek

We are in talks with Sealife Trafford Centre to arrange an exclusive tour and sea trek for DTP students. This is our way of saying thank you to those who contributed to Into the Blue. Watch this space!

BRITISH GEOLOGICAL SURVEY

Open Day for EAO DTP students

We are planning a BGS Open Day for DTP students and supervisors to visit Keyworth for a tour and put your questions to BGS staff. Dates to be confirmed in the New Year.

THE MET OFFICE

Visit from Huw Lewis

Huw Lewis from the Met Office will be visiting the University of Liverpool on 6th February 2017 to attend a collaboration workshop with Ocean Science and Atmospheric staff. If you would like to attend, please contact julie.samson@manchester.ac.uk

IF YOU ARE A PARTNER AND WOULD LIKE TO
FEATURE AN EVENT IN THE NEXT ISSUE PLEASE
EMAIL: nercdtp@manchester.ac.uk



FEATURE

Our 2016/17 Internship Competition has been launched!



INTERNSHIPS

by **Rebecca Oldfield | DTP Innovation Assistant | The University of Manchester**

This academic year sees the launch of our first ever internship competition, thanks to the contribution of new innovation monies from NERC. This is a fantastic opportunity for students to gain invaluable industry insights and for the DTP as a whole to fortify links with new and existing partners.

The competition was opened to 2nd and 3rd Year DTP applicants in early November, with the deadline set at 19th December. Students have been given the option to choose from a catalog of prescribed internships or to liaise with companies personally to write their own proposal.

All internships are industry based but will not be directly linked to an individual's research project. We were particularly keen on finding opportunities within Policy and the Media.

Good luck to all applications, results of the competition will be revealed in the New Year.

Details of placements which have been funded will appear in the next issue.

Rebecca

MICHAEL PRIESTLEY

3rd Year | Atmos Pillar | Manchester

Michael is a student who has already taken part in an internship by his own volition, he spent three months in the Met Office Informatics Lab as part of their Summer Placement Scheme. He had this to say about his experience.

"I chose the Informatics Lab specifically as their work is focused on increasing the usefulness of data. A background in atmospheric science was anecdotally useful during my internship. Mostly, my time was heavily technology focused and involved a lot of coding, including making a web app and helping to build an augmented reality sandpit. Since returning to my Ph.D. I have put my improved coding skills to good use and automated many procedures for analysing instrument data that were previously performed manually (and developed some new ones!). This has made my analysis and data interpretation much faster and more insightful allowing me to produce more impactful work.

Visit the Met Office website for more details on their internships:

<http://careers.metoffice.gov.uk/graduates-and-placements>



STUDENT SPOTLIGHT

Montana, USA | Summer 2016 | Penrose Conference



photo credit, Amy Kelly

AMY KELLY

2rd Year | Earth Pillar | Manchester

From 8th – 12th August, Amy attended the Penrose Conference in Montana and presented a 20 minute talk on 'precious metal concentrations in layered mafic-ultramafic intrusions: insights from halogen and noble gas geochemistry'. It wasn't all work though, as the backdrop of the Beartooth Mountain Range made for a once in a lifetime camping trip at the end of the week, where Amy spent the night at an elevation of around 10000 feet on the Stillwater Complex. "Stillwater was slightly nerve wracking," Amy told us "as there are bears up there!"

Stillwater is a 2.7 billion-year-old layered intrusion. In other words, an 18000-foot high body of igneous rock and, as you can see from the photos, it's quite the view from up there.

Amy said " it was one of the best experiences of my life; both getting to present in front of and socialise with some of the leading scientists in layered intrusion research and actually going to the Stillwater Complex itself. I don't think I'll ever get an opportunity like that again!"



photo credit, Amy Kelly



LIFE IN THE FIELD



STEPHAN | NEW ORLEANS

Stephan Toby returned to New Orleans to work with Kyle Straub, who runs an experimental sedimentology lab at Tulane University. The city is built on top of the Mississippi delta and Tulane's department has a strong focus on delta research. "We conducted a series of experiments looking at the transfer of sediment supply signals to a delta's stratigraphy." Initial results were presented at the AGU in San Francisco recently.

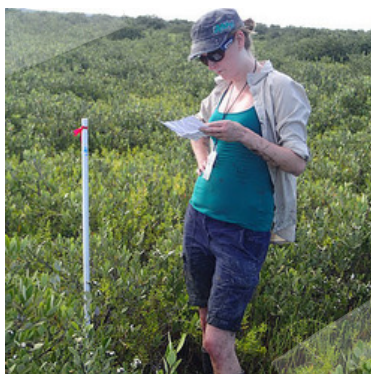


LOUISE | SIBERIA

Measuring magnetic rocks in Siberia, Louise Hawkins' research focuses on mapping where on the Earth the Siberian Continent was located around 370 million years ago. "Our first objective was to identify suitable sites where these volcanic rocks were still in situ, which required a lot of wading through rivers."

To read Louise's full, self-written article on her fieldwork follow the link below:

<https://student-news.liverpool.ac.uk/2016/08/11/postcard-measuring-magnetic-rocks-siberia/>



HAYLEY | FLORIDA

Hayley Craig spent three months over the summer in Florida working with collaborators at the Smithsonian Marine Station and University of Florida Whitney Laboratory for Marine Bioscience. "I was looking at how soil microbial communities in mangroves are affected by excess nutrients



OUT OF THE OFFICE



TRAINING

HTML & CSS | Stavros Keppas

"It was certainly very useful. the way that he presented all this stuff was very well understandable. So, I think that we are now able to build up our site. It was really useful as sometimes you want to make a personal page presenting your CV or even presenting some of your results or various scientific stuff."

NERC ATSC | Stefan Toby

Stephan Toby attended the NERC ATSC, Practical use of mini- and micro- Unmanned Aerial Vehicles for the Environmental Sciences, which focused on safe use of small UAVs for research, hence a large part of the course is on preparations before flying. After some field examples and workshops on building drones and miniature sensors, there was a chance for participants to fly a few minutes themselves. The final day of the course consisted of bringing all knowledge together in a case study. Stephan says "it was a great week with a good atmosphere at SAMS in Oban".

Fast Track Impact | EAO & SPHERES

A big thank you to Mark Reed for delivering this course for 2nd and 3rd-year students from both the EAO and the Spheres DTP. The course, which ran on 2 November in Leeds, received unanimously positive feedback from its attendees.

CONFERENCES

Hayley Craig | Mangrove and Macrobenthos Meeting | Poster: *Exploring Relationships Between Plant Genetic Diversity in Soil Microbial Communities in Mangroves.*

David Williams | The Challenger Society Waves Special Interest Group & Coastal Ocean Processes Special Interest Group | Talk: *A french Meteotsunami on 23 June 2016?*

Callum Thompson | The Royal Meteorological Society Student Conference 2016 | Talk: *Global Occurrences and Causes of Tropospheric Inertial Instability.*

Kieran Newman | The Challenger Society Waves Special Interest Group | Talk: *Determining Tidal Phase Differences from X-Band Radar Images of Wave Fields.*

Thea Wingfield | EGU General Assembly | Poster & Presentation: *Sustainable Drainage, Green Infrastructure or Natural Flood Management - Which Should You Choose?*

Ben Phillips | The Challenger Society Waves Special Interest Group | Talk: *Role of Beach Morphology in Wave Overtopping Hazard Assessment.*



THE REVIEW

Sam Hook talks the NERC Into the Blue Exhibition



A JAWSOME TIME AT INTO THE BLUE

By Samantha Hook | 2nd year | Manchester

During your Ph.D., it is often hard to get time to really involve the general public with a topic that can often feel very alien or complicated. Studying the conservation genetics of sharks and rays, I can often see people confused as to what I am doing and why I am doing it in such a land-locked city as Manchester. Without a doubt, my time here in Manchester has shown me a love for science in both the academic and general public and the Into the Blue festival was one of these occasions that the city became alive with the sound of science! Held at the Manchester airport viewing platform over 1,000 people a day turned up to be amazed and take part in hundreds of different science experiments which gave them a glimpse into the incredible work NERC is funding all over the country! When I first heard of the opportunity I couldn't wait to get involved and I am so glad I did. Myself and the rest of the NERC EAO DTP put together a week of fun-filled experiments including everything from water stratification experiments, tornadoes in a bottle and even a flight simulator!

But I really came into my element by bringing shark teeth and informing people of the general issues of shark conservation all over the world! Armed with a bucket of sand, 5kg of 50 million-year-old shark teeth from the Moroccan desert, and some gift bags made by assistant Finley, people of all ages came to sieve out and take home their very own shark tooth fossil. It was amazing to engage with people and direct conversations which opened people's hearts and minds to the idea that sharks are not just some scary man-eaters, but a necessity to maintain healthy ecosystems for the future of our oceans. And what was even more of an honor was having the chance to present my Sharks and Scientists talk twice, due to its high demand!

The best part of the week had to be spending time with the 'jawsome' scientists that the cohort has brought together at the University of Manchester and the University of Liverpool. I never thought I would have gained such an insight and made friendships with people studying something so foreign to my own subject. Events such as the Into The Blue are just one of the great ways we have all come together to show the rest of the country what we are made of!





TRAINING | SPRING 2017

Upcoming NERC Training Courses



NATURAL HISTORY MUSEUM

Taxonomic principles and tools in botanical research

6-10 March 2017 | Closing date: 17 January 2017 |

<http://www.nhm.ac.uk/our-science/courses-and-students/short-course-taxonomic-principles-botanical-research.html#sthash.HHSr2StD.dpuf>

CRANFIELD UNIVERSITY

integrating Remote Sensing into Advanced Geomorphological Mapping

13-17 March 2017 |

<https://www.cranfield.ac.uk/Courses/Short/Water/Integrating-Remote-Sensing-Into-Advanced-Geomorphological-Mapping>

THE PLACE HOTEL MANCHESTER

Inter-DTP Careers Intensive for EAO, SPHERES and CENTA 3rd Year Students |

22-23 March 2017 |

ARRAN OUTDOOR CENTRE

NCAS Atmospheric Field Measurement Summer School

8 - 19 May 2017 | Closing date: 13 February 2017 |

<https://www.ncas.ac.uk/index.php/en/amss-course-costs>

FOR MORE EVENTS REFER TO THE
EAO DPT GOOGLE CALENDAR



**Thank you for reading
and
Merry Christmas**