

# My Amazing American Adventure!

Megan Alice Edwards  
 Undergraduate Student

My recent summer was an extremely busy one. Over the last 2 years I have been raising money for a Cardiff based charity who raise money for children with terminal cancer and give them the opportunity to go on holiday with their family or meet their hero. The charity offered me the chance to raise money for them and travel to the US to represent them in doing social and environmental conservation work. It was the most amazing experience!

We first travelled to Chicago and worked with children in an outdoor summer day camp. We played games with the children and did a lot of (very hot, 40 degrees C) work in the camp's greenhouse. We also worked in the Chicago food depository, organising fruit and vegetables to be distributed to those who can't afford them, which was actually a lot of fun (until I got attacked by a cockroach hiding under an orange).

From Chicago, we took the Greyhound bus to New York City. It was the longest bus journey of my life - 19 hours! We got to travel through lots of other states adding to the greatness of the trip. The services in Indiana were amazing, lots of truck drivers smoking in the cafe, a few scary looking locals and a stunning sunset; it was definitely a cultural education!

New York was outstanding, everything was larger than life and cosmopolitan. Or so I thought. We did conservation work in Harlem and the Bronx, and, wow, that was definitely a different side to the world's most stylish city. We worked in a food kitchen in Harlem, where I met Jose, a 17 year old cage fighting charity worker from the mean streets of Harlem. In the Bronx, we worked in a very large national park, installing systems in the paths to avoid erosion. That was very hot and heavy work, which resulted in me hitting our guide



in the toe with a pick axe (I had forewarned him not to trust me with one!).

Our journey continued and ended in Washington DC, which was probably my favourite part of the trip. Our youth hostel was lovely and within a close walk of all the major sites. The US Capital building was breath-taking by night; the Lincoln Memorial serene and moving; and then there was The White House. I stood in front of it for about 45 minutes, trying to figure out how such a simple place could be such a powerful image of politics. I really couldn't understand what all the fuss was about! It was just a big pretty house, surrounded by tacky souvenir stalls and burger vans. My US capital ideal had been wiped out in that moment, but that's when I really started liking Washington DC. Our conservation work here included feeding, watering and planting trees, which for most of my group turned into a huge water fight. I took refuge behind a big red truck, which turned out to have a very confused looking driver in it, mumbling about us not appearing very 'British'.

This experience changed my life! I made so many new and wonderful friends, met really interesting people, saw some of the world's greatest skylines, did a lot of work and hopefully changed some lives for the better. I did this all while representing a truly wonderful charity! I felt so honoured and privileged to be given the opportunity to work for them, and they have inspired me to continue to raise money and work for other charities. I would advise anyone to take part in overseas conservation work. It could change your lives too!

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## Awards and events in Geography and Earth Sciences

Every year there is a range of awards to fund travelling, learning experiences abroad, and for our annual photography competition. With these and the number of societies and events within Geography and Earth Sciences and across Aberystwyth University, there are plenty of opportunities to make friends for life and develop valuable skills for future hobbies or the workplace.

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Staff like to get out of the lecture theatre and conduct their own cutting edge research. This section showcases just some of the recent on-going research here in Aberystwyth.

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## Departmental News

As one of the largest Geography departments in the UK we have plenty of news to share, here are some of the selected highlights to give you an idea of what we are up to.

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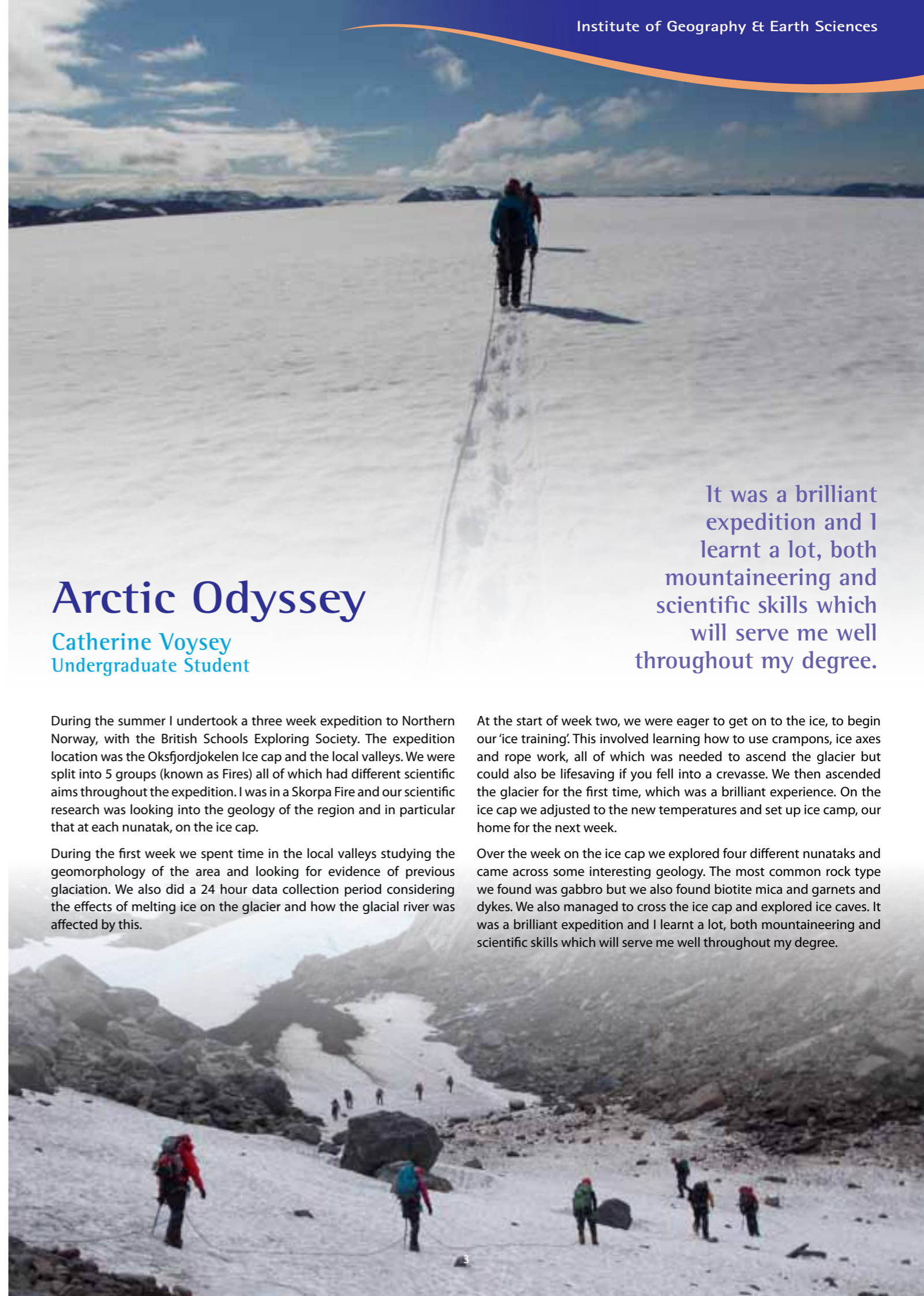
It's been a wet year. Every month there seems to have been news of flooding somewhere or other in Britain, not least here in west Wales, where flash flooding lapped the fringes of Aberystwyth in June. Our flooding experts in Geography and Earth Sciences have played a key role in the local response, explaining the dynamics, monitoring the impact and advising on how to improve flood protection for the future. More broadly, the unpredictable weather is a reminder of the changing climate and the challenges posed for our economy and society.

Geographers and Earth Scientists at Aberystwyth are at the forefront of researching these issues. You may have seen glaciology lecturer Alun Hubbard and his research boat on the BBC's Operation Iceberg, studying ice melt in Greenland. Less dramatic, but equally significant, has been Henry Lamb's role in extending our records of long-term environmental change back over more than 50,000 years; and the work of our human geographers on understanding individuals' environmental behaviour.

This research feeds directly into our teaching, so that Geography and Earth Science students at Aberystwyth are learning the latest ideas on these critical issues and other research frontiers. To keep up to date we regularly review our courses, introducing new modules this year including Climate Change; Power, Place and Development; and Welsh Mineral Resources. Since the start of 2012, we've also appointed 10 new lecturers, allowing us to increase contact time with students and bringing in new expertise in areas such as dryland environments, disaster management, extreme weather events and the human geographies of the sea.

As the articles in this newsletter show, studying Geography or Earth Science at Aberystwyth isn't just about lectures, but also about putting knowledge into practice through fieldtrips, dissertation research and independent adventures supported by our travel awards. These experiences build invaluable skills for future careers, as demonstrated in careers events that we have held this year, welcoming back graduates who are now working in fields including landscape architecture, planning, water management and environmental consultancy. Not surprisingly, the latest figures show that fewer of our graduates are unemployed after six months than the national average for Geography and Earth Sciences. Keep reading to find out more.

Professor Michael Woods  
Head of Department



# Arctic Odyssey

Catherine Voysey  
Undergraduate Student

It was a brilliant expedition and I learnt a lot, both mountaineering and scientific skills which will serve me well throughout my degree.

During the summer I undertook a three week expedition to Northern Norway, with the British Schools Exploring Society. The expedition location was the Oksfjordjokelen Ice cap and the local valleys. We were split into 5 groups (known as Fires) all of which had different scientific aims throughout the expedition. I was in a Skorpa Fire and our scientific research was looking into the geology of the region and in particular that at each nunatak, on the ice cap.

During the first week we spent time in the local valleys studying the geomorphology of the area and looking for evidence of previous glaciation. We also did a 24 hour data collection period considering the effects of melting ice on the glacier and how the glacial river was affected by this.

At the start of week two, we were eager to get on to the ice, to begin our 'ice training'. This involved learning how to use crampons, ice axes and rope work, all of which was needed to ascend the glacier but could also be lifesaving if you fell into a crevasse. We then ascended the glacier for the first time, which was a brilliant experience. On the ice cap we adjusted to the new temperatures and set up ice camp, our home for the next week.

Over the week on the ice cap we explored four different nunataks and came across some interesting geology. The most common rock type we found was gabbro but we also found biotite mica and garnets and dykes. We also managed to cross the ice cap and explored ice caves. It was a brilliant expedition and I learnt a lot, both mountaineering and scientific skills which will serve me well throughout my degree.

# Climbing Ben Nevis

Laura De Graaf  
Undergraduate Student



*During September this year, myself and a former student of the department (Keir Nichols) climbed Ben Nevis for Breast Cancer Care.*

We travelled to Scotland on the 28th of September and climbed Ben Nevis on the 29th. All in all it took 8 hours to climb up and down and almost 90 people took part in the climb. We reached the summit unable to see anything as it started to sleet and snow. It was -10 degrees as the wind was so cold.

Reaching the top was amazing; we both felt a sense of relief. It was a fantastic achievement and so far together we have raised over £700 for the charity. The whole team who climbed Ben Nevis have reached an amazing £60,000 to help support people through difficult times.

As crazy as it sounds, I would do it all over again. Hopefully on a sunnier day!

# In Arctic lands

Alberto Di Dio  
Undergraduate Student

*Arctic environments boast some truly breath-taking landscapes, carved by water and ice through millennia of freezing and thawing. Here, forests and tundra have come to terms with some of the harshest climatic conditions on earth, and so have all the animals and peoples that inhabit these lands. With global warming though, all of this is now seriously threatened.*

Thanks to a bursary, I spent over a month at the Abisko Scientific Research Station, northern Sweden, studying some of the impacts of climatic changes on these hardy yet vulnerable ecosystems.

In particular, we were lucky enough to witness a rare outbreak of Autumnal Moths (*Epirrita autumnata*).

The larvae of this herbivore defoliate the northern birch forests every 9-12 years and they represent the main biotic disturbance at these latitudes. This also inspired my ecology-focused dissertation project, and I am very grateful to Aberystwyth University for giving me the chance to join a world-class research facility. I then took advantage of the location to backpack through the Scandinavian mountains and the Norwegian fiords, living alone in the nature for nearly a month before making my way back to the UK at the end of what has been for me a deeply enriching experience.



# “What the Career Advisers don’t tell you... Year in Employment scheme”

Tom Stevenson  
Undergraduate Student

*In July of 2012 I started work for a year at the Welsh Government as an Evaluation Analyst in the Rural Development Plan Evidence Team.*

I applied for the Year in Employment Scheme (YES) for all the reasons mentioned in the numerous career options lectures; “increased chances of employment post-graduation, valuable experience in a graduate level work placement” etc. Although these reasons are true, my aim here is to give a more personal insight into the application process, the benefits, and the drawbacks of what to expect when opting into YES.

The daunting prospect of finding a placement and the application process are usually the hurdles that dissuade most people from applying to the scheme as they are perceived difficult and time consuming. In reality it can be quite straightforward. Resources provided by the careers service are a great help, especially the “Vacancies” link on the Aber Careers website which allows you to focus applications to just YES offers. An hour or two on a search engine will also throw up leads. Most YES jobs will require the applicant to be on a specific degree scheme, which also narrows down your options.

There are a few minor downsides I’ve encountered with taking a year out, especially being based in Aberystwyth, where having friends close by is both a blessing and a curse. A selection include; not having a third of the year off on holiday, not being able to lie in bed every other

morning like you’re used to and most difficult of all, trying to maintain a personal life (which now includes badminton with the ladies from work) regardless of being constantly exhausted from late nights at the office meeting deadlines that really matter! Of course, there is no sympathy for these qualms as this is just “the real world”, and in two years, post-graduation this will likely be routine.

For me however, the number of positives far exceeds the negatives. My placement so far has given me an insight into how knowledge from my degree can be applied to real world problems. Analytical skills developed in lectures like “Key Skills for Geographers” have proved invaluable and directly applicable to my role at work. Perhaps most importantly the placement has focussed my thoughts on the career path I may wish to follow, and has given me the experience and confidence to hopefully see this route through. Oh, and an extra year to contemplate that dissertation doesn’t go amiss!

On the whole I would highly recommend investigating this excellent opportunity available to undergraduates. Don’t be put off by the effort you’ll need to put into finding a placement; the benefits more than make up for it!



# The W J Edwards Award

Bill Edwards (1944-2007) was passionately interested in Wales—particularly in community, politics and participation. He was also fascinated by the links between Geography and other disciplines such as Art, History and Literature, as well as the social and physical sciences. As Director of Teaching in IGES and as Dean of Arts, he made a great contribution to improving the experience of students in Aberystwyth.

Honouring Bill's love of Wales and his commitment to supporting the academic and personal development of our students, this award is designed to support dissertation or Joint Honours project work which contributes to our understanding of any aspect of the physical and /or human environment of Wales.



## Copperopolis

Matthew Gough, Undergraduate Student

Swansea was once dubbed 'Copperopolis' due to the large role it played in the 19th and 20th century as one of the biggest copper producers. In 1840 the Hafod Smelting Works in the Lower Swansea Valley was producing 29,000 tonnes of refined copper, two thirds of Britain's total output at the time. This industrial nature of the area shaped the urbanisation of Swansea with a great deal of social expansion. The population of the area rose from 1485 in 1700 to 15,000 by 1823, with 10,000 of the inhabitants of the area working in the smelting industry. It also saw Port Tennant become the principal port of Wales being fitted with the world's first floating dock. This was necessary not only for the export of the refined metals but also for the import of the raw ores themselves.

The key to the development of the smelting industry in the Lower Swansea Valley can be attributed to the area having easily accessible transport networks to the upper and mid Welsh coalfields. As it took three tonnes of coal to smelt one tonne of copper it was more economically viable to bring the ores from Cornwall and Devon to Swansea. However, the late 20th century saw the decline of the smelting industry with Swansea no longer being able to compete with its American and African rivals. Despite there no longer being smelters in the area their legacy has left a scar on the Swansea landscape in the form of heavy metal enrichment of the local soils.

My dissertation project is a follow up study of the British Geological Survey's geochemical mapping of the Lower Swansea Valley in which they identified areas which had toxic concentrations of heavy metals such as zinc, copper, nickel, lead and cadmium due to atmospheric deposition of heavy metal particulates from the smelter stacks.

These toxic concentrations of heavy metals can cause serious health problems and destroy vegetation in the area. High lead concentrations within soils have been associated with enriched blood / metal concentrations which can lead to permanent lower physical and mental growth rates even with the removal of the pollution source.

With the United Nations currently estimating that people dwelling in urban conurbations could rise from 45% to 60 % by the year 2030 it is important to establish areas of high heavy metal concentrations and their possible remediation before they are developed.

I would like to thank everyone involved in the WJ Edwards award for enabling me to pursue this area of study.



View of Port Tennant and the lower Swansea valley from one of my sampling sites (taken by myself)



# Swansea's Night-time Economy

Steffan Rees, Undergraduate Student

*Business Improvement Districts (BIDs) are much written about in human geography. They essentially contribute a set of financial levies to provide services to enhance the profits of businesses and to improve the area for the community. My dissertation topic is the effect of Swansea's BID on the night-time economy. Swansea currently possesses the only BID in Wales, yet no geographical work has been completed on it and neither has there been any work done on the effect of BIDs on night-time economies.*

My research methods were semi-structured interviews supplemented by participant observation. Having needed to travel regularly from my home in Carmarthenshire to Swansea over the summer to interview 14 different actors from business executives to students and to observe on 5 different nights from various standpoints e.g. a sunset Tuesday night stroll to a Saturday night meal, the W.J. Edwards Award funded umpteen 36 mile round journeys, parking costs and a tasty Italian meal observing drunken revellers outside!

As a night-time destination for people residing in South Wales with bars, clubs, pubs, cinemas and a theatre, I wanted to explore the effect and consequences of setting up the BID.

The first of my three aims was to investigate the sense of place BIDs are trying to create after dark. Having heard many stories and watched some Youtube videos of the alcohol fuelled nightlife in Wind Street, the city's nightlife centre, I wanted to discover if the BID is making changes. They're trying to make the going out experience better through making it well organised, safer and more appealing e.g. the use of ridiculous drinks promotions are discussed with businesses, cheaper car parking rates have been secured and a help point is funded to deal with any minor injuries.

My second aim was to explore the BID's efforts in developing the security of the area. The number of taxi marshals keeping order in the taxi points has increased with funding, the city's CCTV has been improved, a police officer dealing with crimes affecting BID businesses is employed and regular meetings are held between BID and the police to deal with crimes efficiently. They're not the only actors here though as the police, street pastors and the council all play roles in this.

The third aim was to look into the social sustainability of the BID's night-time economy. Even though the alcohol fuelled nightlife of Wind Street doesn't appeal to everyone, there are cinemas, restaurants and a theatre within the BID. Time slots were evident for various groups – until 9 or 10 o'clock for families and then the mood would change with gangs of intimidating men around.

I've been requested by some of my interviewees for a report of my findings. I am extremely grateful to receive funding from the W.J. Edwards award as it has allowed me to go to Swansea regularly without having to fund all the expenses myself.



Temporary urinals set up for evening revellers

# Madagascar!

Cerys Jeremy, Undergraduate Student

This summer I travelled to Madagascar thanks to help from the IGES travel award and the volunteer conservation company, Frontier. The purpose of my visit was to collect data for my dissertation whilst also contributing to the conservation efforts of trying to protect Madagascar's continuing disturbed forests which are endangering many of the endemic species which reside there. My research focused on reptiles and amphibians within the forests of Madagascar and therefore I spent my time trekking through the forest looking for different reptiles and amphibians and recording any sightings. However I was not just there to complete my dissertation research. I also contributed to lemur and bird surveys as they are also a very important aspect of species conservation in Madagascar.

Madagascar is a very beautiful island, and while I was there I spent 7 weeks living on a beach in a village called Ambalahonko on the island of Nosy Be off the Northern coast of mainland Madagascar. We integrated with the locals and their way of very simple living. Madagascar is one of the poorest countries in the world yet all the locals I met were all very content and happy. After spending time with the locals we became aware of the fact that basic essentials, such as a toilet with a flush, a hot and cold tap, a bed, and clean clothes were something that we all take for granted every day.

Whilst in Madagascar, breakfast, lunch and dinner consisted of rice. Sloppy rice for breakfast, rice with either lentils or beans for lunch and the same for dinner, and occasionally a few vegetables were thrown in! Experiences such as this make you truly appreciate how lucky we are and after my Madagascan experience I appreciate everything I have a lot more. Experiencing their way of living, first hand, was an amazing experience and one I will never forget.



Identifying a lizard – *Zonosaurus rufipes*

Me and a hognose snake we found trekking along the beach (unusual place for this type of forest snake)



Each year we offer up to 13 travel awards worth up to £400 each to students looking to explore the world. Here are some of the stories from those who made it back!

# IGES TRAVEL AWARDS 2011

*"Thank you Geography and Earth Sciences for helping me with the trip of a lifetime!"*  
Nicholas Simmons

Cerys Baldwin collected water samples in Iceland, Andrea Tarling took her third trip to Uganda and Leigh-Anne Bullough explored South Africa. Nicholas Simmons travelled to Ecuador, Cerys Jeremy visited Madagascar and Alison Hood toured South-East Asia.

## Leigh-Anne Bullough, 3<sup>rd</sup> year Geography BSc, visited South Africa



Visiting South Africa in August 2012 helped me to gain a better understanding of the relationship between conservation and community development in Africa. I gained an invaluable insight into how these two

things both hinder and complement each other in a living environment, which has increased my knowledge of my chosen dissertation subject greatly. Being able to live, work and play in a game reserve has been an ambition of mine for years. Fulfilling it whilst making friends for life has been unforgettable. I challenge anybody to visit Africa and not instantly fall in love with its landscapes, wildlife and residents.

My adventure to Iceland taught me about the culture of Iceland, a very serene and nature-loving country. It also helped me to collect some amazing data for an innovative dissertation project. I'm hoping that my original dissertation idea, on a topic that interests me more than anything else, will help me to achieve the highest mark possible.



## Nicholas Simmons, 2<sup>nd</sup> year Physical Geography, went to Ecuador

I planned my trip to take me to Ecuador and the Galapagos Islands. I went with a travel organisation called International Student Volunteers (ISV). As part of the trip I spent two weeks volunteering in a cloud forest near to the town of Mindo, Ecuador. We were working on a farm to boost traditional and sustainable farming methods in the area, reforestation and sustainable living. We also helped paint the local school. The experience of this has been amazing and is by far one of the best things I have done in my life. After volunteering we travelled around Ecuador doing all sorts of activities including bungee jumping, paragliding, rock climbing and whale watching. Finally we travelled to the Galapagos Islands for one week, here we did an island hopping tour. I saw some of the most amazing things such as tropical penguins, sea turtles, giant tortoise...unfortunately lonesome George died two weeks before I arrived! The trip is the best thing I've ever done, I made some amazing friends and helped out people less well off than me. I also got to see first hand some of the things I learnt about during my 1<sup>st</sup> year of physical geography. Thank you Geography and Earth Sciences for helping me with the trip of a lifetime!

## Cerys Baldwin, 3<sup>rd</sup> year Environmental Earth Science, travelled to Iceland



I received £50 from the Margaret and Elwyn Davies travel award, which helped me to finance my trip to Iceland. I ventured here, with my mother, in order to undertake in fieldwork for my dissertation project: *"An Assessment of the Geothermal Springs in Krafla, Iceland"*.

I spent the first 5 days of my week in Krafla, in north-east Iceland. Here is where I collected all samples for my dissertation. It is a volcanic area, with geothermal springs and mud pools. I had never seen landscapes like those in Krafla, except for in text books for my lectures! I have always been fascinated by Iceland's geology, and felt very fortunate to be able to go and explore it myself. For the last two days of the week, we travelled to Reykjavik, and went to the famous hot spring, the "Blue Lagoon". This was very interesting to me from a geological point of view, but also a great way to relax after a hard few days of collecting water samples!



Andrea Tarling, 2<sup>nd</sup> year Human Geography, went to Uganda



I used the Gareth Thomas travel scholarship to travel back to Uganda for my third time. For two months I volunteered with a charity called COBAP (Community Based AIDs Programme) in Nakulabye slums in the suburbs of Kampala. I took on an administrative role in the office of COBAP and I also joined COBAP staff in the community working with

people they support locally. I was involved in setting up and running a medical outreach that offered free medical consultation to any member of the local community.

This is an event run quarterly by COBAP in Nakulabye. Each week we did home visits to people who run businesses with COBAP's help or who are sick or elderly. The trip was completely life-changing and I was blessed to be able to return to old friends whilst also being given the opportunity to make new friends and experience living in Africa completely alone! Everything I did and saw opened my eyes to the ways of the World and broadened my depth of experience.



Alison Hood, 3<sup>rd</sup> year Physical Geography, toured South-East Asia



The aim of the award was to help fund my travels following graduation from my university studies. My travels took me to South-East Asia; visiting Thailand, Laos, Vietnam and Cambodia. These countries have cultures so vastly different to any I've ever seen before, which made the whole trip very pleasurable and a fantastic learning experience. The landscapes and geology of the area, from limestone karsts of Halong Bay, to the rice terraces of Sapa, the tropical beaches and coral reefs off Southern Thailand and Cambodia, are so spectacular that any fellow geographer would be impressed. I also learnt of the history of the region, such as the harrowing war between the US and Vietnam and also the Cambodian genocide - as recently as the 1970's.

One of my personal highlights of the trip, however, was volunteering at an elephant sanctuary where I helped to feed and bathe the elephants, whilst learning about their pasts working for tourist and logging camps. I also assisted in teaching English to young adults in Laos to help broaden their cultural contact.



The Chance of a Lifetime: Carrying the Olympic Torch

Susanna Ditton Undergraduate Student



On discovering I was to have the honour of carrying the Olympic Torch through my University Town, I was absolutely ecstatic. I was just doing what I love best, making a difference, and felt so happy for being recognised for just being who I am. I was nominated for being inspirational and for my natural enthusiasm for life. My concern for worldly injustice led me to spend time volunteering in Kenya and Uganda, developing my passion for East Africa. I taught in underprivileged schools and helped in an orphanage and local hospital. Struck by their need, I aimed to bring joy and laughter to every child I met. Supporting my mother to take up running and complete two marathons has also seen an amazing £3500 raised for charity.

I received confirmation of my selection as a Torchbearer about 8 weeks prior to the Relay. I had been looking forward to it, although it didn't really sink in until the night before. I was super excited, not having a clue what to expect. People were asking if I felt nervous about carrying the torch, but I can honestly say I was buzzing! I was more nervous about attending a posh Olympic party I was invited to by April McMahon, the Vice Chancellor!

At the meeting point, Plascrug Leisure Centre, I got a chance to meet all the other Torch Bearers. It was so exciting. We got given a sticker with our Torch Bearer number on. Mine was 109. I was delighted when I was asked to run a second leg (300m) because one of the runners that were scheduled to carry the torch did not appear. The organisers were impressed with my enthusiasm! When I first held the torch I was surprised at how light it was (800g). There was a yellow shuttle bus to meet us at

the designated collection point and take us to our allocated starting places.

The arrival of the Olympic Flame in Ceredigion was something worth celebrating with huge crowds gathering to support me as I ran with the flame. Well, jumped actually, I went absolutely mental! William (a pensioner nominated for supporting local charities) passed the flame to me. My moment to shine came at around 6.30pm when I carried the torch down Penparcau Road (A487) near Felin-y-Mor. I ran across Trefechan Bridge, down Bridge Street and down the main High Street (Great Darkgate Street). I was so happy dancing around the road, doing full turns, jumping, side stepping and leaping, throwing my head back and arms in the air! I was zigzagging so much, one of the six security

guards running alongside me told me to calm down!

It went absolutely brilliantly, the best day of my life. I was really excited especially to be asked to run a second leg as well. The crowds were amazing, everyone was there and they were shouting. I was also shouting, singing and screaming so much I ran out of saliva and had a sore throat by the end! I passed the Olympic Flame onto Martin (81, nominated for assisting with meals on wheels). I felt proud to be representing the students of Aberystwyth at such a prestigious celebration. I feel so blessed for being chosen and for the opportunity to have such an amazing experience that I will treasure forever, as the Olympic Legacy lives on.



# IGES PHOTOGRAPHIC COMPETITION 2012

## INSPIRE ENGAGE EXCITE DISCOVER

This is what we think Geography and Earth Sciences are all about. This year for the Institute photographic competition, we wanted our students to tell us what these things mean to them in terms of Geography and Earth Science. There were four categories:

**Inspire** – Images that inspire you in your study, and you believe would inspire others to study Geography and Earth Sciences.

**Engage** – Show people engaging directly with Geography and Earth Sciences, or images that will engage people.

**Excite** – Exciting images that show that Geography and Earth Sciences isn't just about colouring in!

**Discover** – Finding that something different, something that someone else just may never have found, or an image that expresses the joys of discovery.

For 2012 we included not only the fieldtrips they had already been on (New Zealand – North and South, Crete, Spain, New York, Ireland - all trips, North Wales and Cornwall), but images students may take during their summer's vacation. We knew so many of them undertook amazing adventures during the summer months that we wanted to see and hear about them.

**Prizes will be awarded as follows:**

First Prize for Best Overall Photograph - £50 Amazon voucher

First Prize for each listed category - £30 Amazon voucher

Maximum of three photographs, Highly Commended - £20 Amazon voucher

### Best Photograph Overall

**WINNER** Laura James (BSc Geography, The Stratosphere) Inspire

In this image, the view from the aeroplane window sums up Geography; that there is a whole world out there waiting to be explored. The opportunities that a Geography degree creates for travel, as in this photo, are truly inspiring.



### Best Photograph in Each Category

#### INSPIRE

**Katie Rees (BSc Environmental Science, Pyrenees, Spain)**

This photo is inspiring because it actively shows the processes of mountain creation, it brings geology to life, and shows the earth's incredible power to shape the landscape.



#### ENGAGE

**Daniel Johnson (BSc Geography, New Zealand)**

Dominating over the local greenery, the distant bustling city of Auckland provides a sharp contrast with the quiet volcanic island of Rangitoto. The Sky Tower in the centre background is surrounded by a conglomerate of various banks, offices and hotels. Yet in the foreground only quiet trees and shrubbery exist. The foreground represents a view of a dangerous isolated island that is close only in proximity from the sprawling city. I like this photo as it vividly demonstrates the dramatic difference between raw nature and the modern city.



#### EXCITE

**Lynne Potter (BSc Geography, Ireland)**

On our walk through the National Park we stopped for lunch when we noticed some deer making their way down the hill!



#### DISCOVER

**Katie Rees (BSc Environmental Science, Pyrenees, Spain)**

In the left of this photo, shows what at first glance appears to be a glacier, it is actually marble that was formed in the heart of the mountain, over time the rocks above have weathered away exposing the marble beneath.



### Highly Commended

**Laura De Graaf (BSc Geography, Ireland) – Discover**

We had just finished a 4 hour hike and where measuring lichen in the graveyard of a local church. I believe the photo captures the natural beauty of the wicklow and a sense of what lies behind the clouds. I submitted the natural shadows of the trees created a sense of darkness on a warm sunny day in Dublin.



**Daniel Johnson (BSc Geography, Singapore) – Discover**

Looking up the central staircase of an oriental pagoda, a shell-like spiralling structure can be clearly seen rising to the roof of the building. This highlights an unusual parallel between architectural styles and natural design.



**Anthony Scarth (BSc Computer Science and Geography, Ireland) – Discover**

The coach driver stopped everyone at a viewpoint to enjoy the scenery. We were able to discover the landscape that many people would only admire when driving past in their car. The sense of scale and the alternative view of the lakes made this scene very memorable.





## The Fullbright Exchange

### Katherine Stewart and Jen Turner Postgraduate Students

This summer Geography and Earth Sciences played host to a group of American students participating in the US-UK Fulbright Commission Summer Institute educational exchange programme. This scheme gives students from across the United States the opportunity to experience an academic programme at a highly regarded UK educational institution at the same time as exploring the culture, heritage and history of the UK and developing a range of academic skills.

PhD students Katherine Stewart and Jen Turner led a group of eight students as part of a six-week programme at Cardiff, Bangor and Aberystwyth Universities. Whilst in Aberystwyth, students were introduced to the spectacular scenery and culture of mid-Wales. Our teaching started with the historical, cultural and archaeological aspects of the area, through to more recent land use patterns into the present day.

A guided tour of the National Library of Wales offered lessons in genealogy and a signpost towards the heritage of the Welsh language, which was also the focus of a seminar on Wales and Diaspora by Dr Rhys Dafydd Jones. A visit to the Georgian Harbour Town of Aberaeron and National Trust property, Llanerchaeron, focused upon tourism and

heritage – factors also considered during an archaeological walk in mining areas with the Royal Commission on the Ancient and Historical Monuments of Wales' Metal Links Project.

In the second week, focus turned to the political, environmental and economic challenges facing mid-Wales and strategies for enhancing Wales' future. Staff at IBERS showed what the future might hold for Wales in a tour of their plant phenomics facility and experimental bio-fuel processing plant. In contrast, at the Centre for Alternative Technology (CAT) in Machynlleth, knowledge surrounding renewable energy, organic gardening and sustainable building techniques culminated in a workshop session planning a Zero Carbon Britain. Sessions at the Aberystwyth Arts Centre with local shoe-maker Ruth Emily Davey and renowned artist Mary Lloyd Jones, saw students engaging with the trials and tribulations of working artistically, sustainably and profitably in the mid-Wales environment.

After two weeks at the Institute the eight students boarded flights bound for destinations from California to Seattle, taking with them then treasured memories of Aberystwyth and IGES that we hope will encourage their US-peers to consider Aberystwyth as an option for their own studies.

# GRADUATE BIOGRAPHIES

You've worked hard and played hard for three years, and that degree is securely in your pocket, **but what do you do next?**

Here are some of our recent graduates to show you just what you can do with a **degree in Geography!**

### JENNIFER BARLOW

Now works as:  
HEAD OF YEAR - GEOGRAPHY TEACHER

It was at the end of my first year that I decided on a career as a teacher, going to lectures and field trips showed me that I loved Geography but the best part of it was sharing it with other people who were also keen. This gave me the desire to see the world and pass on what I had learnt. The area of study I most enjoyed was physical Geography but the wide range of modules available gave me a broad understanding of Geography. When applying for jobs this gave a great basis to teach all levels, from Primary through to A Level. My enthusiasm for both the subject and Aberystwyth as an institution has not dulled over the years and a number of Sixth Formers have followed me to successfully take Geography at Aberystwyth. My geographical knowledge has allowed me to run trips to Uganda, Germany, France, Poland, and many more local trips to areas like Snowdonia. Using modern technology like GIS at Aber has enabled me to develop the curriculum give the students I teach more employability and relevance in the 21st Century. The enthusiasm of lecturers coupled with being in a fantastic location for Geography provided a solid foundation to allow me to go on to success in my chosen career.





It is worth noting that a 2010 poll of over 200,000 graduates from UK universities found discovered that those with geography degrees had the lowest rate of unemployment six months after graduation of any discipline polled (Higher Education Career Services Unit).

**ZOE KERSHAW**

Now works for ENVIRONMENT AGENCY

I would not be where I am now without having completed my MPhil research within IGES. My project was titled 'Local Policy and Practice in Flood Risk Management' and I am now very fortunate to work at the local level that I studied in the Environment Agency in York, within the Flood Incident Management team.

The Environment Agency has a huge number of responsibilities, all with a focus of maintaining a healthy and diverse environment for us to enjoy. With my work, I visit communities, professional partners and businesses whose property is at risk of flooding to raise awareness about what can be done in advance to minimise the impact, as well as during, i.e. who to contact and what to do, and following flooding. Back in the office, I compile technical maps to aid more visual emergency flood plans to be made. Much of our team's work is to incorporate huge amounts of data and evidence from previous flooding and mathematical models to improve the Agency's flood warning service. Obviously, this is something we want people to trust so a lot of effort is made, to make the warnings as accurate as possible.

I have really enjoyed getting to know the surrounding landscape through the river network. I previously worked in Cardiff with the Environment Agency Wales, and even though I was in the same Flood Incident Management team and role, the differences were quite surprising!

Choosing to do an MPhil at Aberystwyth gave me an opportunity to research in greater detail a question that had occurred to me in a previous role within a local authority. Since I was unsure about committing to the length of time a PhD requires, I felt an MPhil was perfect for me. I had excellent support from my supervisors as I was crossing the boundary between physical and human geography – and it proved a bridge certainly worth crossing!

If you live in an area that is at risk of flooding, there are things you can do to reduce the damage that a flood can do to your home. The illustration below shows some examples.



# Geography and Earth Sciences in Cyberspace!

John Balfour  
Postgraduate Student



On 28th February 2012, the Geography and Earth Sciences (IGES) launched their new and exciting 'AU Geography and Earth Sciences' Facebook fan page. After several edits the page has been steadily building a following and achieved its 500th follower on 16th October! At the same time, the Centre for Glaciology also launched its own 'AU Centre for Glaciology' Facebook fan page and accompanying Twitter feed, with similar success in building its following.

The pages are intended to provide information about IGES and the CfG and have been a good way to highlight the wealth of activities that go on in Geography and Earth Sciences. From weekly seminars to undergraduate field trips, postgraduate expeditions and the Summer University, the IGES page is turning into a good repository for all the goings-on in IGES. The Centre for Glaciology's page is generally aimed at a more research-focused and glaciologically-minded audience. Nevertheless, the pages are an excellent way to keep an eye on what's happening in your department and the opportunities that may be available to you.

**Why not get involved and 'Like' the pages at the web addresses below:**

- IGES FB: [facebook.com/AUIGES](https://www.facebook.com/AUIGES)
- CfG FB: [facebook.com/AUCfG](https://www.facebook.com/AUCfG)
- CfG Twitter: [twitter.com/AUCfG](https://twitter.com/AUCfG)

# On the Roof of Africa

Joanna Matthews  
Postgraduate Student

Arrival at Kibo Camp, 4,700m

5,895 metres is high, extremely high. It was a sobering moment when the cloud cleared in Moshi, and we saw the challenge ahead. We were to spend the next 6 days attempting to reach the top of Mt Kilimanjaro, Africa's highest mountain and volcano, and raise money for a great cause, Footsteps International.

Around 40% of climbers have to turn back, so success was by no means guaranteed. The terrain and conditions aren't difficult, but the problem is the decreasing oxygen so high up: you start at 2,100 metres (that's already 750 metres above Ben Nevis!) The following day we set off with our guides who set the pace, "pole pole" (Swahili for "slowly, slowly") to manage the altitude. Over 4 days, we trekked through forest, moorland, ancient lava flows and alpine desert. We reached Kibo Camp (4,700m) in the afternoon of day four.

At midnight we set off into the moonlight for the summit, zig-zagging up the scree slope. The gradient is the steepest of the whole climb and I felt nauseous in the thinning air. We reached Gilman's Point (5,681m) on the crater rim at about 7:30 am, but we weren't at the highest point

yet. Two hours of exhausting shuffling and we finally arrived at Uhuru (Freedom) Peak, 5,895m – on the roof of Africa! The glaciers near the top, 3 degrees south of the equator, are steep-sided, and 40 metres thick, with very little debris cover. They are incredibly impressive, despite having receded significantly in recent decades.

The trudge back down the scree slope seemed to take hours but on the descent you can walk as fast as you like (or can), because oxygen levels increase with every step. After spending 4.5 days going up, we made it to the bottom in just 1.5, finishing in the rainforest with monkeys in the trees! It was a great achievement, but the real reason for the climb was to raise money for some amazing work done by Footsteps International in Kenya. It was a huge privilege to be able to visit several of their projects after climbing Kilimanjaro.

The Church on the Rock School in Nairobi is a collection of corrugated iron classrooms in Kware slum. Most of them are twice as big as they used to be, thanks to Footsteps. The classes are still big, but the children now have space to sit at desks, and windows providing light to see

Church on the Rock school, Kware Slum, Nairobi. The blue buildings are the classrooms, huddled around the playground, with a small water butt for the children to wash their hands



Uhuru (Freedom) Peak (5,895m) – on the roof of Africa!

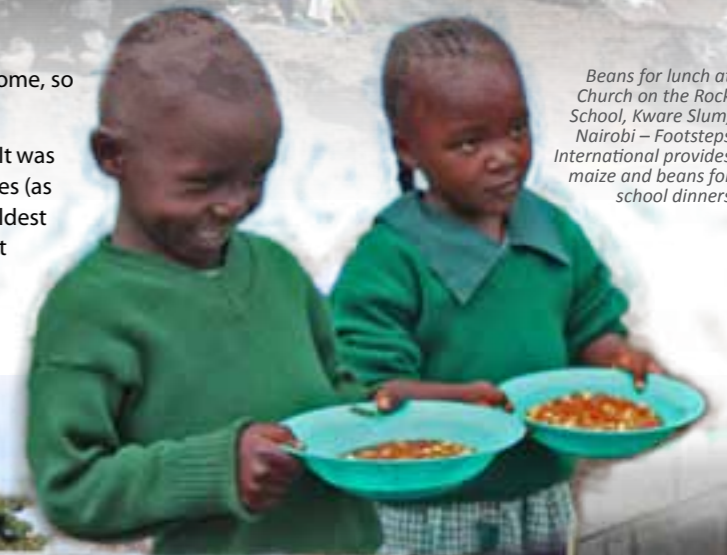
the teacher and their work. Many children don't get enough food at home, so Footsteps provides maize and beans for school meals.

The Sunshine Home in Naivasha provides housing for 90 ex-street boys. It was wonderful to meet the boys and chat with them about their future hopes (as well as debating the merits of Man United and Chelsea) Two of the oldest boys left for university whilst we were there, an amazing achievement when they had once struggled to survive hunger on the streets.

It was a wonderful adventure, and inspiring to see how far every penny (and every pigeon-step) can go when it is towards a good cause. For more information visit: [www.footstepsinternational.org](http://www.footstepsinternational.org)

[www.justgiving.com/jo-matthews-kilimanjaro/](http://www.justgiving.com/jo-matthews-kilimanjaro/)

Beans for lunch at Church on the Rock School, Kware Slum, Nairobi – Footsteps International provides maize and beans for school dinners



Younger ex-street boys showing us around the Sunshine Home

# Working and Playing Hard in Patagonia

Rachel Smedley  
Postgraduate Student

*In January 2012, Neil Glasser, Tristram Irvine-Fynn and I embarked on a 12,500 km round-trip across the Atlantic to Argentine Patagonia, South America.*

Patagonia is the southernmost part of Argentina and Chile and hosts the majestic southern section of the Andes highlands. Currently perched atop the Andes are the Northern and Southern Patagonian icefields, the largest icefields outside the polar regions. The focus of our trip was to collect samples of glacial sediments east of the Northern Patagonian icefield for optically stimulated luminescence (OSL) dating.

We spent two weeks in the field, one week east of Lago Buenos Aires and one week east of Lago Pueyrredon. These lakes are immense. Lago Buenos Aires has a surface area of 1,850 km<sup>2</sup> (the same size as Ceredigion!) Lago Pueyrredon is smaller with a surface area of 325 km<sup>2</sup> (but that is still six times the size of Loch Ness!) During the glaciations of the past, vast glaciers extended out from the Andean mountain icefields and into the extensive lowland valleys, deepening these lake basins. Moraine forms from these past glaciations in the two valleys. The oldest extends back to the Great Patagonian glaciations, approximately a million years before the present! The four sets of preserved moraines are unique to this region and present an incredible palaeo-environmental story tied in with successive deglaciations. Our work included the mapping and surveying of the relic glacial landforms, and OSL sampling.

The adventure did not stop once the fieldwork was complete. After spending two weeks under the shadow of the Andes, the ice was calling! So with the work over, the adventure continued to the Southern Patagonian Icefield and along the questionably paved Ruta 40. Patagonia is a vast expansion of empty space with dramatic panoramas, immense skies and natural treasures at the end of every road. Memories of the awe-inspiring sight of the large Perito Moreno glacier pouring out from the Andean mountains and calving into Lago Argentina will always remain. Visiting the Southern Patagonian Icefield brought my fieldwork full circle as I could observe the processes that I am trying to uncover from the past in a contemporary setting. The wildlife in Patagonia is just as exciting as the scenery. It was a common occurrence to observe armadillos, guanacos, nandus, condors, penguins... the list is endless. Patagonia is a unique part of the world and provides an experience filled with inspiration, colour and adventure for anyone prepared for the challenge. I would highly recommend a visit to Patagonia both for interesting scientific research and out-of-the-ordinary holidays.

### Postgraduate Experiences

Postgraduate students often get the opportunity to spend long periods of time in very unusual parts of the world. They work with a wide range of academics across the globe as well as local people. PhD students Rachel Smedley and Joanna Matthews give us a glimpse into just some of their experiences.



# Dry Spaces and Wet Places

Rhys Dafydd Jones, Lecturer

Having a quiet pint at the Sunday evening quiz is a tradition for many Aberystwyth students; yet, for over a century pubs in Aberystwyth were not allowed to open on a Sunday. Rhys Dafydd Jones, Coleg Cymraeg Cenedlaethol lecturer in Human Geography spent time in the National Archives in Kew in July examining Home Office and Welsh Office papers relating to 'local option' polls on repealing the Sunday Closing (Wales) Act, 1881.

The Act was introduced by the Liberals – the dominant party in Wales – as a way of courting the votes of non-conformist Christians, who were a substantial majority in Wales at the time. Its aim was not only to promote temperance but also to demarcate Sunday as a sacred day, differentiated from the rest of the week. By the late 1950s, however, the Conservative Government felt that there was a need to update and harmonize the licensing laws in England and Wales.

The problem facing the Minister of State for Welsh Affairs, the predecessor of the Welsh Secretary, was how to deal with Wales. Home Office papers detail the dilemma facing the Government: imposing its will on Wales would have cost the Tories seats, while an Inquiry would have merely delayed the issue. The Government were also reluctant to take the option of local polls as it was considered an 'alien' way to conduct politics. However, in allowing local authorities (the

thirteen counties and four county boroughs) to hold local polls was an acceptable compromise. From 1962, local polls were held every seven years if more than 500 electors petitioned the local council to hold a poll.

Rhys' research also examined the position local and Wales-wide media took on the polls. Many felt that the 1881 Act was not only out of date, but also ineffective: private members clubs could open on Sunday and were not as tightly regulated as the pubs. For others, the Act preserved the 'Welsh Sunday', as it was one of the few pieces of legislation that dealt solely with Wales. As time went on, Sunday Closing was largely restricted to the Welsh-speaking heartland of western Wales. Rhys' research explores the entwining themes of Welsh nationhood, religion, and rurality in constructions of Sunday Closing, which builds on his research interests concerning the role of religion on rural lives and minority rights, as well as an extra-curricular interest in real ale! The next stage for Rhys is to conduct interviews with campaigners in four rural areas to explore their motivations for campaigning, bringing a qualitative dimension to studies of electoral behaviour. Iechyd da!

Rhys' archive work is funded by the Sir David Hughes Parry Award, while his interview work is funded by a small grant from the Coleg Cymraeg Cenedlaethol.

# On Board HMS Protector

Professor Mike Hambrey and Bethan Davies, Postdoctoral Research Associate

*Dr Bethan Davies and Professor Mike Hambrey have just returned from a one month trip to Antarctica on board the Royal Navy's ice-patrol ship, HMS Protector. The intention was to be deployed in the field for three weeks with Professor John Smellie, (from Leicester University) and field assistant Iain Rudkin (of the British Antarctic Survey). Despite the best efforts of the Navy, severe ice conditions limited their time in the field to just four days, but they saw much of the Antarctic coastline on the way.*

The planned science was part of a 4-year programme funded by the Natural Environment Research Council and led by Professor Neil Glasser. The aim was to investigate the Antarctic Peninsula Ice Sheet on long and short time-scales in the past. The work will help improve our predictions of how the ice sheet will respond to climate change in the future. This ice sheet has the potential to raise global sea level by up to a metre, and since it is located in one of the fastest warming parts of the world, it is important to better understand how it behaved in the past.

It took HMS Protector three attempts to force a passage through unusually heavy ice to the field party's destination. Eventually, the party was put ashore in a small landing craft at a place called Terrapin Hill. Even this required negotiating an extensive zone of sea ice and small icebergs (called "bergy bits"), while at the same time the sea was freezing over. After establishing camp, the party had four hectic days working on the landforms, rocks and sediments in the area to figure out the rate of ice-sheet thinning. Despite poor conditions of fog, new snow and a fierce overnight blizzard, the party covered a lot of ground and acquired plenty of material for analysis. So, overall, they achieved one of the four objectives they had set themselves. Old hands often refer to the inability of human ingenuity to beat the conditions as the "Antarctic Factor", and this certainly came into play this time!

Despite the fieldwork setbacks, the team had many opportunities to secure background material and photographs for lectures and planned books. The most notable unexpected bonus was a visit to Elephant Island which figures prominently in the annals of Antarctic exploration and features arguably the greatest survival story ever told. In January 1915, Sir Ernest Shackleton's ship Endurance was trapped in the southeast corner of the Weddell Sea and through the succeeding months drifted northwest before finally being crushed by ice in November 1915. The crew had to drag their lifeboats, kit and food across unstable sea ice and then row the open lifeboats to reach landfall – on Elephant Island. Shackleton set off soon after on an epic journey, securing a vessel to rescue the Elephant Island crew, some five months later, on 30 August 1916. Remarkably, all members of the crew survived.

HMS Protector's purpose in visiting Elephant Island was to survey the treacherous coastline off Point Wild, and produce charts for the occasional cruise ship that visits this historic site. With unusually benign conditions, the ship's company were fortunate to be given the opportunity to go ashore briefly, and see where the survivors had managed to hang on, living off seal and penguin. It is hard to imagine a more inhospitable place. Commenting on his impression of this, his 11th, visit to Antarctica on his return, Professor Hambrey said: "Antarctic fieldwork provides among the most severe challenges on Earth. We know that weather and ice conditions can beat even the most sophisticated facilities at our disposal, and it is always a risk that the planned fieldwork cannot be achieved. It was disappointing that we had only 4 days ashore, but thankfully we achieved a lot in that short time..." Dr Bethan Davies added that "despite only a brief stay ashore, we worked extremely hard and achieved more than we thought possible in such a short time. This science will help constrain numerical models, which are used in predicting future ice-sheet behaviour. We are grateful to HMS Protector for her support in what were often difficult conditions."

The team now plans to go to Alexander Island, northern Antarctic Peninsula, for four weeks in November 2012 to work on Holocene valley glacier fluctuations and ice shelf controls on small glacier behaviour.



# Scouting for the Community



## Connecting youth with geographic communities: a study of youth organisations and group identities in the UK during the twentieth century

Rhys Jones and Peter Merriman, lecturers in IGES, along with Sarah Mills (from Loughborough University) have just completed a research project examining the connections between youth, youth organisations and understandings of community within the UK.

The first strand of the project involved a review of academic, policy and practitioner literatures concerning youth organisations. Academic studies have focused on the varying spatial configurations of youth organisations. Connecting youth to different scales of geographic community – local, national and global – was seen by youth organisations as a way to foster 'good citizenship'. The significance of community is further highlighted in the policy and practitioner literatures. Youth organisations are said to facilitate positive connections between young people and their local community, whether through volunteer work or local fund-raising. National understandings of community are also clearly apparent, with the most significant ideas connecting youth work to national communities appearing in Scotland. There also appears to be an important global sense of community that impacts on the work of youth organisations in the UK. The United Nations Convention on the Rights of the Child, for instance, is viewed as a context within which all youth policy and youth work must operate. The overriding theme in the literature relates to the potential for youth work to overcome community tensions and divides; whether between

different ethnic groups, different ages or different socio-economic classes.

The second strand of the project involved a scoping study to examine the suitability of the archives of Urdd Gobaith Cymru and the Scout Movement in Wales to act as the basis of a case study, which would feed into a larger project concerned with writing a 'new British history' of youth organisations. Both archives contained some limited case study material that would be useful in promoting such a study.

The three researchers are in the process of defining a follow-up research project, which will use oral history interviews and focus groups in order to determine the actual impact of youth organisations on the identities of young people.

If you are – or were, in your youth – a member of a youth organisation, and would be happy to discuss your experiences of being a member, please get in touch with Rhys Jones (raj@aber.ac.uk).



# PROgRESSIon - PRototyping the Retrievals of Energy fluxes and Soil Surface moisture - PROgRESSIon



George Petropoulos, Lecturer

Understanding natural processes of the Earth System as well as the interactions of its different components with manmade activities – especially in the context of global climate change – has been recognised by the global scientific community as a very urgent and important research direction requiring attention for further investigation.

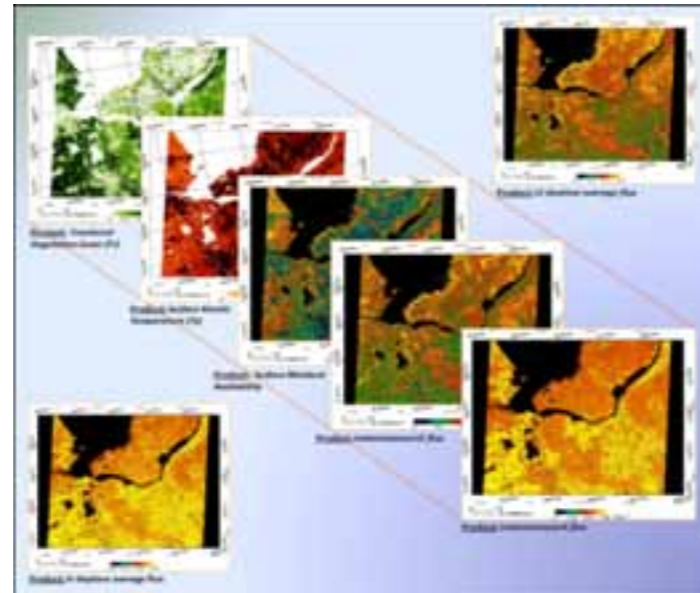
To this end, being able to map and accurately provide spatio-temporal information on the surface atmosphere exchanges of parameters such as of latent (LE) and sensible (H) heat fluxes (both instantaneous and daily average ones) and of soil surface moisture content (Mo) is of key importance to understanding land surface interaction processes of the Earth system, how terrestrial ecosystems work and how different components of Earth system interact with manmade activities. LE is defined as the turbulent flux of heat from the Earth's surface to the atmosphere associated with evaporation of water at the surface. On the other, H is the turbulent flux of heat transferred between the surface and air when there is a difference in temperature between them. Soil moisture is generally perceived as the water contained in the unsaturated soil surface of the Earth, derived from rainfall, snowmelt or by capillary attraction from groundwater.

Both LE and H fluxes are involved in a number of Earth's physical processes feedbacks at the local, regional and global scales, having an important bearing to the global water cycle. H flux has a strong influence on the turbulent nature of the near surface atmosphere by changing molecular movement through heat transfer, whereas LE flux is directly linked to the global water and carbon cycle. Soil moisture is a significant component of climatological, hydrological and ecological systems. It has long been recognised as a key state variable of the global energy and water cycle due to its control on exchanges of energy and matter and physical processes, impacting also directly exchanges of trace gases on land, including carbon dioxide, which in turn influence the dynamics of the atmosphere boundary layer and thus weather and global climate.

The importance of accurate estimation of their spatial/temporal distribution globally was addressed in the "Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy" or, in short, the

EU Water Framework Directive.

The advent of satellite-based remote sensing over the last few decades has led to the development of several algorithms for the estimation of the



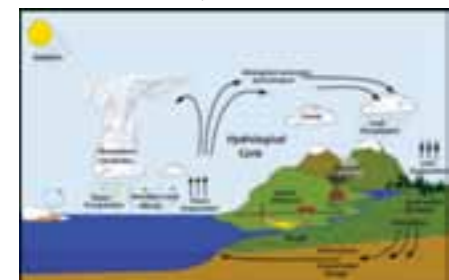
Example of inverted energy fluxes and Mo maps derived from the implementation of a Ts/Vi method using here ASTER imagery and a SVAT model for a region in The Netherlands.

latter parameters from remote sensing observations, often used in combination with ancillary surface and atmospheric observations. Remote sensing provides today the only viable solution for obtaining estimates of both surface fluxes and soil moisture content at the spatiotemporal scales and accuracy levels required by many applications.

Yet, at present global operational mapping of those parameters from remote sensing instruments is lacking or is underdeveloped. In general, their estimation by remote sensing techniques is done in quite diverse and unconnected methods. Specifically, methods combining the biophysical properties encapsulated in a satellite-derived scatter-plot developed between the surface temperature (Ts) and vegetation index (VI) maps often combined with simulations from a land-biosphere model have shown a considerable prospect for potential operational implementation scenario.

Recognizing that gap that currently exists as well as the strong relevance of both the turbulent heat fluxes and Mo parameters to the numerous Challenges of the European Space Agency's (ESA) Living Planet Programme the present research aims to develop a series of prototype products for the global estimation of the above parameters exploiting advanced technologically designed instruments from ESA-funded or co-funded missions.

Any information or questions regarding PROgRESSIon can be addressed to the Principal Investigator, Dr George P. Petropoulos, gep9@aber.ac.uk



Global hydrological cycle

# DEPARTMENTAL NEWS



**BETHAN DAVIES, NEIL GLASSER** and **MIKE HAMBREY** have launched a new website about their research in Antarctica. www.AntarcticGlaciers.org is aimed at interested members of the public, A-Level students and undergraduates, and provides bite-sized pages on a variety of Antarctic glaciological topics. The website also features a blog, where you can read about the scientists' activities in the field and at conferences, integrated social media (including a Twitter account) and interactive features, such as an Ask A Scientist function. Perhaps most importantly, here you can see all the photographs that the scientists have been taking in Antarctica. The website is funded by the Scientific Committee for Antarctic Research and the Quaternary Research Association.



**PROFESSOR MICHAEL WOODS** visited Beijing in late October as an invited participant in the 3rd Seminar on the Comparative Analysis of Rural Development Processes in Brazil, China and the European Union. The seminar, hosted by the College of Humanities and Development at the China Agricultural University (CAU), and co-organized with Wageningen University and the Universidade Federal Do Rio Grande Do Sul, brought together rural researchers and development professionals from Brazil, China, Belgium, Italy and the Netherlands, with Mike the only UK-based participant. Chinese participants included Li Changping, described by The Guardian as the "most important advocate of peasant rights in China", and Clinton Foundation Global Citizen award winner, Liao Sheri. The two-day seminar was followed by a field visit to the 'Little Donkey' community supported agriculture farm on the edge of Beijing, and to remote Sanggang village in Hubei province, where CAU has been involved in rural development projects for 15 years. Mike also presented a guest public lecture in the CAU's Critical Issues in Agrarian Studies and Development Lecture Series, as the 20th speaker in a distinguished list of leading international researchers in development studies and rural sociology. Whilst in Beijing, Mike also met with researchers in the Institute of Geographical Sciences and Natural Resources Research at the Chinese Academy of Sciences to discuss potential opportunities for future collaboration in research and postgraduate studies.

**MARK WHITEHEAD** has been appointed to the Social Science Advisory Group that is guiding Northern Powergrid and British Gas's Customer Led Network Revolution (<http://www.networkrevolution.co.uk>). This scheme centres around the largest smart-grid project in the UK (involving 14,000 homes and costing £54 million to implement). Mark is providing advice about the potential role of smart-grid technologies in facilitating low carbon behaviours.

**DR BILL PERKINS**, in collaboration with colleagues in IGES and IBERS, has been awarded £442,619 from Defra for a three year research project entitled "Treatment of non-coal mine water – establishing new pilot trials using alternative technologies." The project will build on the expertise generated by the EU Life BIOMAN project. This project will involve staff from IGES working with colleagues in IBERS



## UK Luminescence and ESR conference

Aberystwyth Luminescence Research Laboratory (ALRL) hosted the UK Luminescence and ESR conference between 11-14th September. Although called the "UK" meeting, more than two-thirds of the 75 delegates were from overseas, with people travelling from Japan, China, South Africa, the USA, and all over Europe to attend the meeting. Talks were given by Melissa Chapot, Geoff Duller, Georgina King, Helen Roberts, Rachel Smedley and Rosie Stirling from ALRL in IGES.



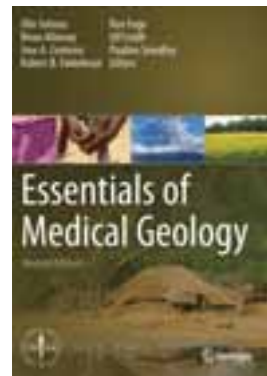
Members of ALRL were also co-authors on a number of other talks and posters. Apart from the International Luminescence Dating conference held once every three years, the UK Luminescence meeting is the largest gathering of researchers in the field.

to test the potential of biochar (a product of the bio-fuels process) as an absorber of contaminants from mine water. The main driver for this project is the EU Water Framework Directive and the need to address the pollution which continues to flow from abandoned metal mines throughout the UK.

**PROFESSORS GEOFF DULLER** and **MICHAEL HAMBREY** have been awarded £250,000 as part of a multi-million pound NERC consortium grant to study the timing of the last deglaciation of the British-Irish Ice Sheet. The BRITICE-CHRONO consortium consists of colleagues from eight UK universities and from the British Geological Survey. During the 5 year long project, a range of geochronological techniques, including terrestrial cosmogenic nuclides, radiocarbon, luminescence and tephrochronology will be applied to samples collected from transects along major ice streams of the last great ice sheet to cover the UK and Ireland. The locations of these transects have been chosen to provide examples of both terrestrially based and marine based ice streams, so that the Consortium can assess variations in the rate of retreat that was observed at the end of the last Ice Age. At the end of this project, the British-Irish Ice Sheet will be the best constrained anywhere in the world, and will be the benchmark against which ice sheet models are tested and improved in the future. The award of this NERC consortium grant is a success for the Climate Change Consortium of Wales (C3W), with C3W staff at Aberystwyth, Bangor and Swansea Universities playing key roles in the BRITICE-CHRONO consortium.

# OFF THE BOOKSHELF

## The Essentials of Medical Geology



The *Essentials of Medical Geology* is due to be published in January 2013. Professor Ron Fuge is one of the Editors and has written two of the chapters while Dr Peter Abrahams has also written one of the chapters.

*Essentials of Medical Geology* is a revised edition of the book published originally in 2005. The original book was a best seller and won three international awards. It was recognised by the British Medical Association as one of the best books published on public health in 2005 and was "Highly Commended". It was also one of two winners in the "Geology/ Geography" category of the 2005 awards for Excellence in Professional and Scholarly Publishing (PSP) Division of the Association of American Publishers. Finally in January 2006 it was included in the list of Outstanding Academic Titles for 2005 by Choice (*Current Reviews for Academic Libraries*). In addition to its wide circulation in the English language it was translated into Chinese in 2009.

## Dark Territories in the Information Age



Over the past ten to fifteen years, there has emerged an increasing interest in mobility in the social sciences and humanities. In his new book *Mobility, Space and Culture* Peter Merriman encourages readers to

consider how different ways of moving have reconfigured our relationship with our surroundings and society-at-large, and he does this by focussing on the impact of the motor car on British society between 1895 and 1910.

# NEW STAFF

## Ann Rowan



Dr Ann Rowan joined IGES as a C3W-funded postdoctoral research fellow in March 2012 having completed a PhD in Earth Sciences at the University of Manchester. Ann is a glacial geomorphologist working in the Centre for Glaciology with Professor Neil Glasser and Dr Duncan Quincey to model the response of Himalayan glaciers to past and future climate change. Also, in collaboration with High-Performance Computing Wales, she will use a weather research and forecasting model to discover the meteorological controls on these glaciers. Ann is contributing to undergraduate teaching in the Yr1 *Key Skills for Geographers* and Yr3 *Palaeoglaciology* modules.

## Joe Williams

Joe Williams joined IGES as a Lecturer in Physical Geography in September 2012 from Kansas State University. Joe graduated from the University of Southampton with a BSc degree in Geography, before obtaining his PhD from the Open University in partnership with the Natural History Museum, London. Joe's research focuses on understanding long-term ecosystem dynamics as a response to disturbances from climatic adjustments and anthropogenic impacts. He uses lake sedimentary records to assess the vulnerabilities and resilience of terrestrial and aquatic systems to these disturbances, via the use of multi-proxy biological and biogeochemical investigations. Joe is particularly interested in the Bolivian Tropical Andes and the interactions of climate, vegetation and pre-Columbian society. Outside of academia, he continues his interests in mountain ecosystems with snowboarding, hiking and climbing.



## Cerys Jones



Cerys Jones joined IGES as a Lecturer in Geography in February 2013, part funded by *Coleg Cymraeg Cenedlaethol* and predominantly teaches geography through the medium of Welsh. Cerys completed her undergraduate and postgraduate degrees at the Institute. She has contributed to our Welsh-medium provision since 2008 and was appointed a Welsh-medium Teaching Fellow in 2011. In May 2012, Cerys received a 9 month post as a Research Assistant at the University of Wales Centre for Advanced Welsh and Celtic Studies (CAWCS). Whilst at CAWCS, she worked on an AHRC funded project entitled 'The Snows of Yesteryear' (<http://eira.llgc.org.uk>) in partnership with the National Library of Wales, Aberystwyth University and the Met Office Hadley Centre's ACRE project. Her

research focuses on climatic and environmental history and human responses to unusual or extreme weather, mostly in Wales since the nineteenth century. Outside academia, her time is mostly taken up by the numerous and varied activities of the Young Farmers Movement.

## Rachel Howell

Dr Rachel Howell moved to Aber in mid-September, having just completed a PhD at the University of Edinburgh on 'Promoting Lower-Carbon Lifestyles'. She is an Environmental Social Scientist and her work spans psychology, sociology, human geography, behavioural economics



and environmental education. Rachel believe strongly in the need for subject- (as well as disciplinary-) specialists when it comes to addressing big issues such as climate change. Her postdoctoral research fellowship is funded by the Climate Change Consortium for Wales and she will be working on 'Human Dimensions of Climate Change' – a pretty broad brief! Her first project will investigate the impact of climate change adaptation discourses, compared to mitigation discourses, on people's attitudes towards mitigation. She will also be teaching (which she loves) on the Environmental Policy and Sustainability masters module, and the undergraduate Climate Change: Impacts, Perceptions, Adaptations course. Apart from work she enjoys singing, walking, bell ringing, dancing, reading, yoga, and writing to prisoners through the Prison Phoenix Trust which encourages and supports inmates in the practice of yoga and meditation.

## George P Petropoulos



George P. Petropoulos joined the Institute in February 2012 as a Lecturer in Remote Sensing & Geographical Information Systems. Before joining IGES he was a Research Fellow at the Foundation for Research & Technology of Greece (FORTH) in Crete, holding a grant from the European Space Agency to pursue his research. He has obtained a Masters from the University of London (intercollegiate

degree between University College London, Imperial College and King's College) and a PhD from King's College London. After his PhD, George worked for 1.5 years as a postdoctoral fellow in the department of Earth Sciences at the University of Bristol. Then he returned to Greece from where he was professionally active for the last 3 years until he came to IGES. George's research interests lie in the exploitation of Earth Observation, GIS and land surface models in studying and better understanding land surface dynamics and their changes due to anthropogenic activities or natural hazards, as well as the physical processes affecting the energy and water budgets of the Earth System. Outside of work, he loves hiking, mountain biking, basketball and snorkeling.

## Andrew Thomas



Andrew Thomas has been appointed as the new senior lecturer in physical geography. This is a welcome return to Wales for Andrew, who is a graduate of Swansea University, where he obtained his degree and Ph.D. He has held previous lectureships at Reading, Salford and most recently Manchester Metropolitan Universities where he was Reader in Physical Geography. His research interests are in drylands, particularly the Kalahari of southern Africa, where he has spent far too much time digging soil pits and looking intently at processes occurring in and on the desert sands.

His recent work has focused on the impacts of grazing and climate on biological crusts and soil carbon. This has taken him to the Makgadikgadi salt pans in northern Botswana, where he has looked at the biological and chemical uptake of carbon in hyper-saline and alkaline soils. Exploring the links between soils, ecosystem services and rural livelihoods to is also an important aspect of his work.

## Kevin Grove



Kevin Grove comes to Aberystwyth after completing his PhD at the Ohio State University in June 2011 and holding a postdoctoral fellowship at Dartmouth College the following year. His research bridges political geography and political ecology to study how societies are governed through social and ecological uncertainty. As part of his dissertation research, Kevin conducted a participatory ethnography with Jamaica's national

disaster management agency to study the cultural and political effects of catastrophe insurance and community-based disaster management. His work has been published in geographic and interdisciplinary journals, including the *Annals of the Association of American Geographers*, *Security Dialogue*, *Society and Space*, and *Geoforum*.

## Kimberley Peters



What better place to study the sea, than by the sea? Kimberley's research focuses on human engagements with the oceans and she has most recently considered the legal aspects relating to offshore radio piracy, publishing papers in *Environment and Planning A*, *Area* and *Geography Compass*. Kim joins IGES from the University of Sheffield, having previously completed a doctorate at Royal Holloway. Kim will be teaching a range of modules from first year to

Masters – with a particular focus on research methods!



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