Momentum
Research news from Swansea University
Issue 11: July 2013

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• Comic strips and Kinder eggs – Research as Art 2013 winner
Welcome to the July 2013 edition of Momentum.

From Kinder eggs to fungus, the astonishing variety of the research carried out here at Swansea is what stands out from this issue. All of our six Colleges have thriving research communities, adding to the fund of knowledge in their areas, securing grant funding, and helping to nurture the next generation of researchers.

You can also read about the Hay and Cheltenham Festivals, where our experts have been taking to the stage and laying open the world of Swansea research to the public, running very successful sessions on everything from places in Welsh history to particle physics and penguins.

What do European visitors think of Wales? How are we helping young offenders? And what have student researchers found out about the history of their predecessors? Find out more in this issue.

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On the cover

Brothers Norman (95) and Joyce (96)

This portrait, by photographer Susie Rea, has been on display in Swansea University as part of the Coming of Age project (see p5), which is led by our Older People and Ageing Network (OPAN). The picture is part of Susie Rea’s Super Vivere series, which portrays people over 90.

Norman: “I never married, no. So maybe that is the reason that I lived so long!”

© Susie Rea www.susierea.com

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For more details about Swansea University’s research...
Research, teaching and learning

Professor Alan Speight on research-led and practice driven teaching at Swansea

Research is at the heart of our work in Swansea University for a wide variety of reasons, but amongst the most important is that it enables us to improve the teaching and learning experience we provide to our students.

There should be a symbiotic relationship between research and teaching: intrinsically linked, they are two sides of the same coin. At Swansea we have developed the notion of teaching as ‘research-led and practice driven’, and we are considering the ways in which research and best professional practice can be embodied in students’ learning and teaching across disciplines and at all stages of the student’s journey.

This includes ensuring our course content reflects the latest developments in research, but goes beyond it to focus also on engaging students in research as active participants, and introducing them to research processes and methods. The different ways of embedding research can be described as:

- **Research-led**
  Curriculum is structured around teaching subject content

- **Research-oriented**
  Curriculum emphasises teaching processes of knowledge construction in the subject

- **Research-based**
  Curriculum emphasises students undertaking inquiry-based learning

- **Research-tutored**
  Curriculum emphasises learning focused on students writing and discussing papers or essays

All of these are important to us, with our Swansea Academy for Learning and Teaching (SALT) leading our efforts to strengthen the research-teaching nexus across all disciplines.

The curriculum reform project we are currently undertaking provides excellent opportunities for us to further embed research in student learning, for example through flexible learning, placement and mobility options and changes in credit volume.

We are not alone in seeking to put research at the heart of our teaching and learning. For example, Russell Group institutions, collectively and individually, have been doing likewise. Indeed, in a recent report on research and teaching, the Group said that “the culture of enquiry-based, independent learning in a world-class research environment is at the heart of the student experience in Russell Group universities”.

The benefits to students of a strong culture of research throughout their learning are considerable. They experience a better quality of teaching when it is informed by research. Being involved in research can help them to develop an aptitude for independent learning through enquiry-based learning, together with teamworking, communication, and analytical and problem-solving skills.

Learning in a research-intensive environment also gives students greater access to research and funding opportunities, and can help improve confidence and motivation. It is important that we communicate these benefits clearly to current and potential students.

The German thinker Humboldt, who did much to lay the foundations for the world-renowned German education system in the early nineteenth century, which then served as a model for other countries, underlines the essential link between research and learning, arguing that “universities should treat learning as not yet wholly solved problems and hence always in research mode.”

Here at Swansea, we are always in research mode, and we are committed to developing further the relationship between our research and our teaching, thereby improving both, and enriching the experience we offer to our students.

Professor Alan Speight
Pro Vice Chancellor
Boost for fungus as an alternative to chemical pesticide

International collaboration on insect resistance strengthens case for fungi

Hopes that fungi can provide a safe and natural alternative to chemical pesticides have been given a major boost by new research into insect resistance just published by a team including Swansea University scientists.

Working with colleagues in Russia and Germany, the researchers found that although insects did develop resistance to insect pathogenic fungi, they were less able to breed as a result. The findings strengthen the case for fungi as a pesticide compared to chemical alternatives.

The research, published in PLoS ONE and the Proceedings of the Royal Society, was carried out on a species of moth which is a pest in bee hives. It comes only weeks after the European Union voted to ban chemical pesticides on crops attractive to honey bees, following concerns over a dramatic decline in the bee population.

Over 700 species of fungi have been identified as potential pesticides. As well as killing crop pests, some kill insects that harm human or animal health, such as midges and mosquitoes.

Researchers exposed 25 successive generations of the moth to a fungus called Beauveria bassiana. They analysed the moths’ reactions to see if they built up resistance, but they also looked at other factors such as stress.

Dr Miranda Whitten from the Institute of Life Science at Swansea University said:

“Our research shows that while insects do build up resistance, there is a very big price to pay. Most importantly, they can’t breed as well. Having their immune system on a high state of alert may be damaging to them, plus there is some evidence that they are more vulnerable to other infections.”

Professor Tariq Butt from the College of Science said:

“Although our experiments were on moths, it gives us an indication of what would happen in other organisms. It provides a useful model to test things on.”

“One of the key findings is that insect resistance isn’t just about the immune system. The stress management system also plays a key role. That’s why it’s important to look at the whole picture, not just immunity.”

Dr Ivan Dubovskiy, from the Institute of Systematics and Ecology of Animals at the Russian Academy of Sciences in Novosibirsk, said: “The research can help us make biological pesticides more efficient. If we know more about how insects develop resistance to natural pesticides, it can help us unlock their defences.”
Art exhibition highlights Swansea research into ageing

The artworks have been produced by artists from across the UK, including photographer Susie Rea, who produces portraits of people over 90. Sharon Bailey blends older people’s words with poignant motifs or symbols of their lives. Jennie Pedley’s film “a is for ageing” shows scientists researching ageing along with silhouettes of older members of her family. Carla Bromhead’s drawings and prints document outward signs of ageing, and Susan Aldworth’s Dissolution II combines photographs of older people with drawings of the plaques found in the brains of people with Alzheimers.

OPAN is a multi-disciplinary research network which aims to improve the lives of older people through the integration of research, policy and practice in Wales. It links research to practice and policy-making, encourages collaborative projects, and helps raise the profile of research into ageing.

The exhibition has involved partnership with ABMU Health Board and Swansea Metropolitan University and has been curated by the ABMU Arts in Health Co-ordinator Prue Thimbleby.

Maria Cheshire-Allen from OPAN said: “The idea of the art exhibition is to show researchers and health professionals from lots of different subject areas that ageing research is relevant to them. We want to get them thinking about ageing in ways that they maybe haven’t thought about before.”

Languages team to study European views of Wales

The project is funded by an Arts and Humanities Research Council grant of £420,000, and is a collaborative effort with Professor Carol Tully and Arddun Arwyn of Bangor University and Dr Heather Williams of the Centre for Advanced Celtic Studies.

Using expertise in at least seven languages and cultures, the team will be looking into an array of sources ranging from travelogues to guidebooks, diaries to blogs, and highlighting the role of travel writing in forming perceptions of Wales both at home and abroad.

This important area of study has been neglected, but is central to our understanding of European intercultural relations, the development of Welsh identity and the establishment of the tourist industry in Wales. The team will be considering questions such as:

- What view of Wales and ‘Welshness’ emerges from the texts?
- Is Wales perceived differently from other ‘Celtic’ nations, e.g. Scotland and Ireland?
- Is Wales sexualised or feminised as the exotic, in particular via parallels between the ‘Celtic’ and the ‘Oriental’?
- How have European perceptions of Wales developed and changed since 1750?
- Have European perceptions of Wales influenced the development of Welsh cultural identity?

A digital database of the sources discovered will help the project to reach the wider public, and the website will include mapping tools to discover sources and research on specific locations. In 2015 a museum exhibition detailing the outcomes of the research will tour around Wales, coinciding with a conference on ‘Minority Cultures and Travel’. The project team are looking for undocumented sources, which might include diaries, memoirs or travel reports of Europeans’ experiences of Wales. Contact Arddun Arwyn on a.arwyn@bangor.ac.uk
Researchers from the College of Arts and Humanities at Swansea University were in the spotlight at this year’s Hay Festival of Literature and the Arts, sharing their expertise on subjects ranging from poetry, fiction and Welsh history, to literature, protest and terrorism.

The Festival, now in its 26th year, was famously described by US President Bill Clinton as “the Woodstock of the mind”. It brings together international writers and thinkers, film-makers, historians and novelists, philosophers, environmentalists, poets and scientists.

Professor John Spurr, head of the College of Arts and Humanities at Swansea University, said: “The Hay Festival offers a showcase for the breadth of talent at Swansea University. Our poets, historians, musicians and novelists work around the world and across Wales: they came to Hay to share their passions with a discriminating audience and to launch the 2013 Dylan Thomas Prize.”

Events featuring experts from the College of Arts and Humanities:

- **Memories of Revolution** - Professor of German, Julian Preece, and Welsh author Chris Keil were in conversation with Gwen Davies, editor of New Welsh Review. Preece’s study *Baader Meinhof And The Novel* explores forty years of myths and conspiracy theories about the German Autumn.

- **’A Place in Welsh History’** - Professor Huw Bowen and Dr Martin Johnes (Department of History and Classics) joined other leading historians, including Assembly Member Leighton Andrews, to consider what are the most important places in Welsh history. The historians made 4 minute pitches to the audience making the case for Gower churches, the street, Merthyr Tydfil, Ysbyty Ifan in north Wales, and the M4. The winner, chosen by the audience, was Merthyr.

- **‘Fictions – Stranger than Truth’** - Professor Dai Smith, Raymond Williams Chair in Cultural History at Swansea, and author Robert Hudson, spoke to Jon Gower about their work, including Prof Smith’s *Dream On*, a black comedy/noir thriller meshing lives and legends of South Wales.

- **Poetry and Song** - award-winning fiction writer and singer-songwriter, Dr Fflur Dafydd (Department of English Language and Literature) joined her mother, internationally-renowned poet Menna Elfyn, on stage for an evening of poetry and song. Dr Dafydd has also been selected as Hay’s International Fellow for 2013-14, and will be visiting other festivals as a guest writer over the next year.

Swansea University also hosted a tea party at Hay for invited guests to mark the new partnership between Swansea University and the Dylan Thomas Prize, one of the most prestigious international prizes for young writers. Author of *Seating Arrangements*, and winner of the 2012 Dylan Thomas Prize, Maggie Shipstead, was at the event, at which the judging panel for the 2013 Prize was announced.

The Prize was established in 2006 as one of the world’s highest-paying literary awards for young writers from around the world. It celebrates the legacy of Dylan Thomas, who wrote most of his best work in his 20s. Since then, the Prize has become an unfailingly reliable guide to the best new literary talent by unearthing and recognising young writers from across the globe.

Chairman of the Dylan Thomas Prize, Peter Stead, said: “We could not be any more thrilled about the sponsorship by Swansea University. Like the Prize, Swansea University has a terrific record of uncovering and fostering new talent with its pre-eminent creative writing programme.”

(left to right) Dylan Thomas Prize – Chairman Peter Stead, University Chancellor Rhodri Morgan, winner Maggie Shipstead, Head of Arts and Humanities Prof John Spurr, past winner Rachel Tresize
Swansea University has been a major supporter of the Cheltenham Science Festival, and this year was no exception, with Swansea researchers exploring everything from DNA and frontier medicine, to comets and the humble cup of tea.

The Festival brings together more than 300 of the world’s greatest scientists, thinkers, comedians and writers, to celebrate and explore the wonders of the natural world, the complexities of the human mind, and the mysteries of space. It aims to engage, inform and inspire members of the public and encourage interaction with science and science-related issues. The director of the Festival is Swansea graduate Sharon Bishop.

Sessions involving Swansea researchers:

**Particle Physics: An Introduction**
Particle physicists Dr Tom Whyntie, ‘Researcher in Residence’ for the CERN@school project, and Professor Mike Charlton, Department of Physics, College of Science, Swansea University, who is part of the ALPHA experiment at CERN, gave a whirlwind introduction to particle physics. Their talk, aimed at complete beginners, covered 100 years’ worth of science in just one hour, from electrons and Crookes tubes to trapped antimatter, the Higgs boson and the Large Hadron Collider.

**Animal Diaries**
Rory Wilson is professor of Aquatic Biology, and Head of Biosciences in the College of Science at Swansea University. For more than 30 years, he has been inventing special high-tech tags and attaching them to wild animals in an attempt to understand more about them. Starting with penguins and moving to armadillos, sloths and even sharks, his work has given him access to their daily lives. In his talk, he revealed some of the animal secrets he has uncovered.

There was also an opportunity for Festival goers to hear about the Higgs boson from the man who theorised it – physicist Professor Peter Higgs, an Honorary Fellow of Swansea University. He was in conversation with the Festival’s Guest Director, Dara Ó Briain, about his life and work.

Professor Noel Thompson, Swansea University Pro-Vice-Chancellor (Research), said: “As a Major Supporter of the Festival again this year, we aim to increase awareness of the University’s world-class research at the world’s largest and most prestigious science festival. “Communicating and disseminating the impact and value of the leading-edge research we undertake here in Swansea, in collaboration with partners worldwide, is crucial. Participation in the Festival again this year, highlighting the fields of Physics, Engineering, and Biosciences, provides an ideal platform for us to engage with the public to do this.”

**Crime Scene Investigation**
Dr Richard Johnston and Dr Ian Mabbett from the Materials Research Centre in the College of Engineering ran four sell-out Crime Science Investigation events for those aged 11 years and upwards. They told the audience that a leading researcher has developed an amazing new material with incredible properties under extreme conditions – attracting much attention – but that he has been found murdered and all the data and specimens stolen. The investigation team has recovered key pieces of evidence from the scene and participants helped to identify the culprit using microscopy, spectroscopy, finger print analysis and 3D-printing.

**As a Major Supporter of the Festival again this year, we aim to increase awareness of the University’s world-class research at the world’s largest and most prestigious science festival**

Professor Noel Thompson
Research Round-up

Why soils develop a fear of water

Researchers at Swansea will investigate the causes of ‘hydrophobicity’, a condition whereby microbes in the soil produce proteins that prevent it from absorbing water after long dry periods.

The results could have profound implications for land management and the prevention of floods and erosion, especially in areas experiencing significant climate change.

The three-year study, funded by an £868,000 grant from the Natural Environment Research Council (NERC), will also involve the Met Office and Rothamsted Research.

Dr Geertje van Keulen, of Swansea’s Institute of Life Science, said: “Only by bringing together a truly interdisciplinary team across life science, chemistry, material science engineering, and meteorology, can we analyse the complex forces at play here.

“With the new model we will be able to better predict which areas may suffer from flooding during storms that follow dry periods.”

The team will also be working closely with projects at Swansea funded by BBSRC and the Royal Society.

Research into ‘building blocks’ of Universe

Dr Niels Madsen, Reader in Physics, has received a £1.66 million grant from the Engineering and Physical Sciences Research Council to conduct research comparing hydrogen and antihydrogen, to discover symmetries between matter and antimatter.

Current thinking holds that antimatter should make up half the Universe and that, apart from some characteristics, it is equal and opposite – a perfect mirror image of matter. However, until now scientists have found no evidence of bulk antimatter in the Universe, one of nature’s greatest conundrums.

But recently, experiments by the ALPHA collaboration at CERN (the European Organisation for Nuclear Research), of which Dr Madsen is a part, have made the creation and capture of a small number of antihydrogen atoms possible.

With the new funding, Dr Madsen is hoping to conduct experiments that will significantly boost this trapping efficiency, allowing for more antihydrogen atoms to be trapped for longer periods of time and help scientists to discover more about how the Universe was created.

Swansea doctor helps deliver another first in neo-natal care

A pioneering team from Wales and the South West has been the first to successfully deliver xenon gas and cooling therapy in an ambulance to newborn babies suffering from lack of oxygen at birth.

In the UK, every year, more than 1,000 otherwise healthy babies born at full term die or suffer brain injury caused by a lack of oxygen and/or blood supply at birth. This can lead to lifelong problems such as cerebral palsy.

Dr John Dingley, Reader in Anaesthetics at Swansea University’s College of Medicine, designed and installed the equipment which has been used to deliver the gas to two babies so far.

Dr Dingley’s research here in Swansea highlights the real health benefits that can be gained through collaborative research between the NHS and universities.

“"Professor Keith Lloyd

He said: “To reduce delay between birth and treatment it is now common to start cooling therapy during the ambulance transfer and we wanted to do this with the xenon as well. Therefore, I developed a very compact version of the xenon breathing system we are currently using in the baby unit, which fits a small space on the ambulance baby transport system. This means xenon can be delivered to the lungs continuously, even while the baby is being moved.

Professor Keith Lloyd, Head of Swansea University’s College of Medicine, said: “Dr Dingley’s research here in Swansea highlights the real health benefits that can be gained through collaborative research between the NHS and universities.”

www.swansea.ac.uk/medicine
Award for work with young first offenders
Professor Kevin Haines and Dr Stephen Case from Swansea University’s Centre for Criminal Justice and Criminology have been named as joint winners of the 2013 Howard League Research Medal, for their work on the Swansea Bureau youth diversion scheme.

The Bureau works with young people admitting a first offence; assessing their needs following arrest and convening a decision-making panel that includes the young person and their family. It ‘normalises’ offending, treating it as everyday youthful behaviour, and promotes prosocial behaviour, children’s rights and parental/family involvement.

The scheme was established through a partnership approach between Swansea Youth Offending Team, South-Wales Police and supported by the wider Community Safety Partnership.

Since the Bureau began, statistics indicate annual decreases in: numbers of first-time offenders, first-time entrants into the Youth Justice System and formal outcomes (Reprimand, Final Warning, Prosecution), alongside increases in the numbers of Informal Actions (diversion).

New chapter for Business School
Professor Nigel Piercy, currently at Warwick Business School, is to be the new head of the Business School at Swansea. An expert in strategic marketing, he looks at how organisations can develop and implement effective and sustainable business strategies.

Asked about his priorities for research across the School at Swansea, he said:

“Business schools are increasingly judged by the quality of their research output in the scholarly literature, so placing publications in the highest rated academic journals is a top priority. However, business schools have other stakeholders as well, and producing research which reaches out to a managerial audience and changes the way business disciplines are understood, practised and taught is an equal priority. The link is making impact on both the scholarly and practitioner audiences with novel, innovative and relevant empirical insights, and becoming an active part of the big managerial and business debates of the day.”

A face hidden from history
Researchers at Swansea University’s College of Engineering have revealed a 3D model of the face of one of Henry VIII’s elite archers, who drowned aboard the warship Mary Rose in 1545.

The team analysed the man’s skull and produced an exact 3D copy using X-ray scanning and 3D printing. Swedish expert Oscar Nilsson, who works with the police on reconstructing the faces of unidentified bodies, then used the copy to build up the man’s face muscle by muscle. Evidence suggests that the man was an archer, as his skeleton showed evidence of repetitive stress injury from pulling a longbow. He was of high rank, possibly a captain, and was found with an ivory armguard, a silver ring, and a bag containing a pewter plate. He was over 6 feet tall and in his 20s or 30s.

The work is part of a wider project involving Swansea University and the Mary Rose Trust.
Dr. Jack M. James, Head of Research and Development, AquaBioTech Group

Later in 2010 I took a position culturing eels in Mananjary on the East coast of Madagascar. I did this for a year before returning to the UK for a year of travelling and working at CSAR again on the ocean acidification project.

I am now Head of Research and Development at the AquaBioTech Group in Malta, a position I accepted in September 2011. I am responsible for designing experiments, carrying out research, managing projects and coordinating internships in the R&D department, as well as finding new clients and growing our market presence.

The research is a mixture of commercial contracted R&D as well as European-funded projects, all related to aquaculture, from fish feed and vaccine development, through to ecotoxicology and algal technology. I manage a staff of permanent technical staff and interns, producing research of the highest quality under biosecure and scientifically rigorous conditions.

What attracted you to working in this field?

I have always been interested in marine biology and in particular fish. After completing my first degree I almost stumbled into aquaculture thanks to the opportunity that GoWales and Dr. Shields gave me, but I am now a fully-fledged aquaculturist with production and research experience.

How has Swansea University and your course helped you with your career?

A combination of two degrees, an internship, work experience and good contacts and friendships has been the main contribution Swansea made to my career – so I essentially have Swansea University to thank for everything!

What advice do you have for current students and new graduates?

Having helped in the education of hundreds of students over the years at SU, my main piece of advice to current students would be to get the balance right – love the course you are studying and live life at the same time.

Don’t be afraid of speaking up, building relationships with lecturers and researchers, and becoming more involved in University and course life. These people and these experiences will set the path for your career.

To new graduates I would say think carefully about what you want to do next, Masters, PhD, work, training? From my position as Head of R&D, in which I see a lot of CVs, I would recommend you try to get a mix of practical experience and academic training if you plan to go into your chosen industry rather than academia – there are vast numbers of people with Masters degrees and no experience of real work, and these more often than not lose out to people with a healthy mix of the two.

What are your memories of Swansea?

Diving with SUSA in Cornwall and Egypt; Millport field studies course; friends and good times; hard work; years of fun demonstrating their importance in the human food chain. So this was essentially any course run by Dr. John Lancaster, Dr. Jon Houghton (now at Queens Belfast) and Prof. Andy Rowley; being the first member of staff in a leading research centre: the Ospreys; long days on the Gower.

Graduates in focus

Dr. Jack M. James, Head of Research and Development, AquaBioTech Group

Why did you decide to study at Swansea University?

I grew up in Cardigan in West Wales but was living in Norfolk when I applied for University. My desire was to return to Wales, and as I was interested in Marine Biology, and was a native of the southern parts of Wales, I decided Swansea was the sensible option.

What did you enjoy most about the course?

Anything fishy! I enjoyed anything which involved studying fish, their behaviour and their importance in the human food chain. So this was essentially any course run by Dr. John Lancaster, who I have remained in contact with since finishing my time at Swansea. Of course I also enjoyed the social side of life at Swansea, meeting a lot of people, some of whom have become close (if geographically distant) friends.

What are you doing now?

I finished my BSc (Hons.) in Marine Biology in 2003, after which I got a 12 weeks internship thanks to GoWales to work at the new Centre for Sustainable Aquaculture Research (CSAR).

After I had finished this, I became the first full time member of technical staff. I was offered a funded PhD by Dr. Robin Shields, and completed this in 2009. I worked for a time at CSAR before taking a short term position working on an S4C wildlife documentary and a BBC 2 Wales bird documentary, both presented by Iolo Williams.

Stay connected

Graduates of Swansea University become members of the Alumni Association, a network of past students who support each other professionally and socially around the world.

Alumni have an important role in helping the next generation. If you would like to feature in future publications, or indeed, if you can offer work placements or research opportunities to our students, please email alumni@swansea.ac.uk

www.swansea.ac.uk/alumni

Keep up-to-date with news from Swansea University and the Alumni Association
A comic strip explaining the wonders of X-ray scanning and 3D printing, demonstrated by printing a perfect replica of a Kinder Surprise toy but without breaking the egg, has won the 2013 Research as Art competition.

The only competition of its kind, Research as Art is open to researchers from all subjects, with an emphasis on telling the research story, as well as providing a striking image.

Described by The Guardian as “stunning”, the set of 15 winning images included titles such as:

- New tools from insect poo
- Older people on the move
- Resisting temptation
- Medieval disfigurement – a graphic guide
- Finding needles in four-dimensional haystacks

The judging panel was drawn from eminent UK organisations including the Royal Institution – where last year’s winners were displayed – the Royal Academy of Arts, Research Councils UK, and the New Scientist.

Laura North, a postgraduate in materials engineering, submitted the winning entry, called “Project Surprise”.

Flora Graham, digital editor of NewScientist.com, one of the judges, said:

“Research is more than the hard facts that make it into the papers and journals - the Research as Art competition reveals the day-to-day human experience that lies beneath the results. The winning entries combine pictures and words to give a glimpse into the beauty, variety and complexity that researchers discover during the process of working.”

Laura North, Overall winner

Each image captures a specific and important stage of Project Surprise, performed during day-to-day activities in the lab. The comic strip was designed to mirror the project that began as a fun experiment for Easter and also to allow the method to be accessible to a wider audience.

The concept has many other exciting and broad applications, from collaborating with the Egyptology department in reproducing mummified snake remains, to modern medicine, with perfectly fitting joint replacements.

Scan here to see winning images
From the roaring Twenties with their fancy costumes and grand balls, to the 1980s and campaigns for cheaper beer and an end to apartheid, the rich history of students at Swansea University has been brought vividly to life by student historians working on new collections in the University’s archives.

Research was carried out in the archives by students into the history of their own Students’ Union, as part of a course offered by the University’s Department of History and Classics. Sion Durham (above), one of the students on the course, won a prize in a national archives competition for describing his work on this project.

Amongst the treasures in the archive are:
- 1922 Rag Week fancy dress picture (above) – two years after the founding of Swansea University, the students are ready to party in a bewildering variety of costumes
- 1922 Student Ball Dance Card (below) – the card listed the dances scheduled, from the Tango Waltz to the Hesitation Dip, and then gave space – and even a pencil attached on a piece of string – for students to book in their partner for each dance.
- 1950s student newspaper – “Dirty crockery and unsoaked peas” – complaints about the refectory had led to “smouldering discontent”, so the newspaper reported.

In addition, work on the history of the Swansea Students’ Union has unearthed:
- 1980s plaque supporting Nelson Mandela – this marks the visit of an African National Congress representative to the campus in 1985, when the future South African president was still in jail.

Sion Durham said:
“One of the issues that came up in my research in the archives was Swansea students’ long fight to have their own bar. The records show that this lasts for around 30 years.”

“Dances and balls were a part of student life. One wild night in 1958 ended up with lots of glasses being smashed. After this episode, students needed to prove now more than ever that they were trustworthy enough to run their own bar. In fact this didn’t happen until 1988.”

“The archives are a great resource, and the team here at the Richard Burton Archives have been amazing.”

Dr Louise Miskell, senior lecturer in the department of history and classics, said:
“We wanted to design a module that gave students more practical experience of communicating their historical knowledge to the public.”

“Working with original sources is really important at Swansea, and when the Student Union records were deposited in the archive it was a perfect opportunity. It meant students were able to look at minute books of meetings, student newspapers, and all the doings of previous generations of students at Swansea.”

Elisabeth Bennett, Swansea University archivist, said:
“The University history would be incomplete without a history of the students. Here at the Richard Burton Archives our aims are to preserve the records in our care and to help people use them.”

“It’s great to see students using archives as part of their courses and there is a lot more potential for them to be used.”