

BIOLOGY NEWS

WINTER 2012



Biology at Staffs.

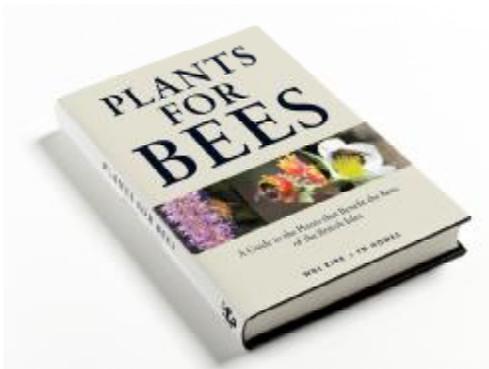
Hello, and welcome to the sixth edition of Biology News, the newsletter of the Biology field at Staffordshire University. The newsletter features the activities of Biology staff and students, with news of research and publications, courses, prize-winners and more.

See our space on the university website for more news and information:

http://www.staffs.ac.uk/faculties/sciences/news_and_events/news_archive/biology_news_2012.jsp

Plants for Bees

Some of Dave Skingsley's photographs are featured in the new publication *Plants for Bees* by William Kirk. Published by IBRA, the International Bee Research Association, the book offers a clear and practical guide on how to create a bee-friendly garden.



DEFRA bid success

Professor John Dover is part of a team which has won contract to work for the Department for Environment, Food and Rural Affairs (DEFRA). The project "Understanding the combined biodiversity benefits of the component features of hedgerows" is headed by Bright Angel Coastal Consultants and John will be providing expert advice.

Student Society

The Staffordshire University Biology Society (BioSoc) is one of the most recently formed societies at the uni and is for everyone with a keen interest in biology, not just for people studying it.



As a society, we believe that biology is a broad-ranging science and appeals to people with many interests, ranging from the metabolic pathways of microorganisms all the way to the ecology of wild African elephants! Taking this into account we aim to offer a variety of activities and socials to appeal to these diverse interests. Our members come from varied academic disciplines, which we feel helps enrich our society and equips us with the knowledge and opinions that help us make the BioSoc involve and appeal to everyone, and encourages a very lively and friendly environment.

We recently participated in the first national Biology Week, which took place during the third week of October, by hosting a Biology-themed pub quiz and the first of many documentary nights. These events were met with enthusiasm and have now become regular fixtures. We host weekly documentary nights (every Tuesday at 5pm, Science Centre), monthly quiz night at Ember Lounge, and socials every week at the Graduate pub. We are in the process of organizing some very eminent guest lecturers and exciting field trips. The membership fee is only £5 and with it comes discounts to guest lecturers and access to member-only events.

We are thrilled with the response we have had so far and are keen to have your suggestions to some of the events and activities that the society can host. Staffs BioSoc is a great place to network and make friends with people with similar interests and to gain valuable skills that can help increase graduate employability in a harsh economic climate. We encourage everyone to join and look forward to seeing many new members in the upcoming future, remember; you don't have to be a biologist to explore the world around you!

Contact details: BioSoc is on the student's union page at link: <https://www.staffsunion.com/organisation/11721/>
e-mail: staffsbiosoc@gmail.com. Twitter: @staffsbiosoc.
Facebook group Staffordshire University BioSoc

Student Appreciation

Dr Kevin Reiling was nominated by students in the student-led teaching awards in the category of tutors who have had a positive impact on students.

From the Students' Union website: 'Those nominated for the Positive Impact Award have gone that extra mile to ensure your experience is the best possible one for you. These are exceptional people who have really enriched your experience as a student.'

Train the Trainers

Biological science students, Trust Diya and Saba Akhtar gave an excellent presentation at the 'Train the Trainers' regional meeting on 14th March 2012. This event hosts the influential training officers from regional NHS laboratories and included presentations by placement students from Keele and Staffordshire Universities.

Dr Pauline Gowland, who was present, comments that the presentation was well prepared, very well delivered, contained extremely useful and thoughtful feedback for placement providers. In short it demonstrated the students' talent as highly employable professionals, a credit to themselves, the University and Biological Sciences.

Feedback Works

Trust Diya was also one of the three winners of the Feedback Works competition run by the University's Learning, Development and Innovation department.

The competition aimed to raise awareness amongst students about the importance of the feedback they get from their tutors. Students were asked to create a design or prototype for an artefact which promotes at least one of the six feedback themes.

Trust received the cash prize at the 'Celebrate the Success' event which took place on Friday 15th June 2012.

Fungus Research

First-class honours IT/Biology student Osagie Izuogu used the Fungus group *Conidiobolus* in his project "Developing J2EE web application with integrated MySQL database for Phylogenetic analyses of *Conidiobolus* spp (Entomophthorales)", supervised by Harry Mountain and a member of staff from IT.

He was sequencing sections of DNA from a number of *Conidiobolus* species and comparing them to work out relationships of species within the genus. The web application is an impressive piece of software that Osagie constructed to allow comparison of the sequences generated and to compare them to those already in the literature.

MSc in Ecology and Conservation

Amy Brockley is a recent postgraduate student of Staffordshire University who studied the newly-developed MSc in Ecology and Conservation which commenced in September 2010. Here she gives her thoughts about the course:



I graduated from Keele University in July 2010 with a 1st class honours in Physical Geography with Geology, with the ambition to divert my focus slightly into the field of ecology via a Masters degree. Staffordshire University was offering a range of interesting MSc courses, but the MSc in Ecology and Conservation particularly caught my eye due to its flexibility in modules, allowing you to effectively construct your own course to suit your personal interests.

The course allows you to gain both practical experience via field work and lab work, and academic expertise through a wide range of relevant assignments appropriate to industry, such as the production of a nature reserve management plan or GIS project map. There is also the opportunity to partake in a research assistant placement module which gives an insight into life as an academic, or a work experience placement module whereby you decipher for yourself a relevant place where you would like to complete the module. For me, this has been one of the highlights of the course, as it has developed into an opportunity of permanent work with a local ecological consultancy firm, 'Evolution Ecology' based in Cheadle. I have recently celebrated my first anniversary with the company, and am grateful for the opportunity which the Masters gave me in order for me to achieve this role. Additionally, the staff associated with the course offer extensive help and support and the range of facilities available are fantastic to support each module. Overall, I would highly recommend the range of MSc courses which Staffordshire University have to offer, as I have personally achieved more than I originally anticipated from the exceptional curriculum.

Nature walks and workshops

Dr Dave Skingsley organised and led a series of nature walks and workshop sessions.

- Nature walk – Staffordshire University Staff Fest (28th June 2012)
- Cheshire Active Naturalists: Crane fly workshop, Lower Moss Wood (26th May 2012) see photo right
- Cheshire Active Naturalists – Recording techniques. Rixton Claypits (13th May 2012)
- Staffordshire Invertebrate Group – AGM (21st Feb 2012)
- Staffordshire Invertebrate Group end of season review. Staffordshire Wildlife Trust HQ (29th Nov 2011)



Courses at Walford and North Shropshire College

The following part-time evening courses in Countryside Management are offered at our partner college at Walford:

HNC Wildlife and Countryside
HND Wildlife and Countryside
FdSc Wildlife and Countryside
BSc (Hons) Wildlife and Countryside Management (Top-up)

They also offer CPD courses in Rural Environmental Management, Farm-Based Renewable Energy Production and Rural Environmental Issues.

Contact details:
Walford and North Shropshire College,
Baschurch, Shrewsbury,
Shropshire SY4 2HL
Tel: 01939 262 100
Fax 01939 261 112
Email: enquiries@wnsc.ac.uk

The Big Bang

Students from Staffordshire University have been working with local school science clubs to enthuse the pupils about Science and in particular how science is used in real life.

Undergraduate Biology Students Andrew Bird and Helen Parkinson have been working with the science club at St Peter's Academy. Andrew and Helen both joined the club working as STEM (Science, Technology, Engineering and Mathematics) ambassadors last November. Since then the club successfully applied to showcase their activities at the National Big Bang Festival at the NEC in March 2012. The project 'Green for Go' involved building renewable energy powered vehicles using recycled materials. It brought together the school science and technology departments in the research, design and build of the vehicles. At the Big Bang festival the group had rubber band cars for visitors at their stand to make and race. Gill Finan the Science teacher at St Peter's Academy said "the students have been great and really inspired the pupils".

New Science Centre

Biology at Staffordshire University has a new home in the multi-million pound Science Centre on Leek Road, Stoke-on-Trent. Part of the UniQ development, the new building was officially opened on October 12th by Olympic gold medallist and Staffordshire University graduate Andrew Triggs-Hodge, MBE.



The new building houses Biology, Geography, Forensic Science and Psychology, as well as the Biomechanics Laboratory, the Renewable Energy Laboratory and facilities for the Sixth-form College and Stoke-on-Trent College.

Inaugural Lecture

Professor John Dover will give his inaugural professorial lecture in the Science Centre on December 4th 2012. His talk will be entitled "Metamorphosis: from scrubby child to butterfly ecologist or, Hissing Sid and the missing data point" and will be a personal view of his career, including his years of research in the field of butterfly ecology in Australia, Norway, Sweden, England and the hay meadows of the Picos de Europa, Spain (right).



Green Walls

John Dover has been awarded funding from the Higher Education Innovation Fund (HEIF) to fund a develop a centre for green wall research and advice. John and his student Caroline Chiquet will be working with the company



Mobilane using the green walls on the university estate as examples that local authority staff, developers and architects can visit to see their potential.

(Left) Caroline Chiquet with staff from Mobilane and Hedera Screens installing green walls at the University's College Road site.

Presentations

Dave Skingsley presented a paper entitled *Inclusive Design in Award Development* at the HEA Bioscience Representatives Forum, University of Birmingham, 6th-7th September 2011.

Kevin Reiling presented a paper at the National HEI STEM conference Birmingham University, 4th-6th September 2012. Dr Kevin Reiling, Sara Buckley and Dr John Wheeler: *Science Working for You: Staffordshire STEM Cluster Initiative*.

PhD student Caroline Chiquet gave a presentation entitled *Are hedges and green walls analogues?* at the 1st International Hedgelink Conference "Hedgerow Futures" at Staffordshire University September 3rd-5th 2012.

On 3rd October 2012, together with Management Consultant Sue Pritchard, Kevin Reiling ran a masterclass *Biology and Business: Complex and Complicated* as part of Finest Strategic Leader Programme.

On November 24th 2012 Dave Skingsley gave a talk on *Insect Vision* at the Worcestershire Entomology Day.

Staff Publications

Rescia, A.J., Pérez-Corona, M.E., Arribas-Ureña, P. & Dover, J.W. (2012) Cultural landscapes as complex adaptive systems: the cases of Northern Spain and Northern Argentina. In: Plieninger, T. & Bieling, C. (eds.) *Resilience and the Cultural Landscape: Understanding and managing change in human-shaped environments*. CUP, Cambridge.

Dover, J.W. (ed.) (2012) *Hedgerow Futures. Proceedings of the first International Hedgelink Conference*. Hedgelink, 206pp.

Chiquet, C., Dover, J.W., and Mitchell, P. (2012) Are hedgerows and green walls analogues? In: Dover, J.W. (ed.) *Hedgerow Futures*. Hedgelink.

Merry, S., Skingsley, D.R. and Orsmond, P. (2011) Development of scientific knowledge. *Bioscience Bulletin* (issue 32): p10.

Hedgelink Conference



Hedgelink is a partnership that brings together everyone interested in hedgerows, to share knowledge and ideas, to encourage and inspire, and to work with farmers and other land managers to conserve and enhance hedgerow heritage.

The first international Hedgelink conference "Hedgerow Futures" was held at Staffordshire University's new Science Centre in September 2012. Two days of talks by experts from the UK and Europe were followed by a visit to a farm at Whitmore where different techniques of hedge laying were demonstrated (right).

John Dover was the conference organiser, together with Emily Ledder from Hedgelink. The conference proceedings are available to purchase from Hedgelink, see the website <http://www.hedgelink.org.uk/hedgerow-futures-conference-2012.htm>



S-Lab 'Effective Laboratory' Awards Scheme

On 10th May 2012 Audra Jones, Technical Manager in Sciences at Staffordshire University was asked to be on the Judging panel for the S-Lab Awards at the Institute of Cancer Research in London. These awards are organised by the HE funded body – supported Safe, Successful and Sustainable Laboratories, in association with the National HE STEM Programme. This scheme recognises excellence in laboratory design, operation and management in all sectors, and in laboratory-based teaching and learning within educational institutions, that creates improved performance whilst enhancing safety and sustainability.

Audra was asked to judge the Laboratory Environmental Improvement category of the applications which recognises specific initiatives to improve the environmental performance of laboratories. Audra was invited as a judge for these awards because of her interest in laboratory environmental issues demonstrated in her approach and initiatives in the new Science Centre build at the University and her work in the North West Universities Purchasing Consortium. Audra joined judges from the Higher Education Funding Council, Building Research Establishment (BRE), Research Councils UK, National HE STEM Programme, National Science Learning Centres, Forum for the Future and the Environmental Association for Universities and Colleges.

Four applicants were shortlisted in this category and the winners were announced at the S-Lab Conference in York on 12-13 June 2012. <http://www.effectivelab.org.uk/effective-lab-awards-2012.html>

Course Accreditation

The Biomedical Science award has been fully re-accredited for another 5 years with the Institute of Biomedical Science (IBMS) and the Applied Biomedical Science award now has Health and Care Professions Council (HCPC) approval.

Where are they now?

Paul Reynolds, who completed the Habitat Management and Conservation MSc last year, graduating with a Merit, sent news that he is working as an Intern at the Wild Futures monkey sanctuary in Looe, Cornwall and will possibly be getting a job there. They have given him the opportunity to develop a green infrastructure project both to make the sanctuary more eco-friendly and to educate the public. The sanctuary always needs new volunteers, please see the link here:

<http://www.wildfutures.org/get-involved/volunteer/>

Andy Watts, who studied Applied Ecology at Staffordshire University, graduating in 2004, has just been awarded his PhD in Marine and Freshwater Ecology and Environmental Management at Glasgow University.

Andy's thesis was "*Trophic dynamics and population genetics of the Norway lobster (Nephrops norvegicus)*".



Postgraduate Diploma

Andrew Hunt (Silverdale Community Country Park Ranger) writes "In 2011, I completed a Postgraduate Diploma (PgDIP) in Habitat Conservation and Management. I chose Staffordshire University because I wanted an applied course that would help me gain a job in countryside management. The blend of classroom and outdoor field work were ideal and the guest speakers from ecological roles really helped as did the work experience module. I was lucky enough to secure paid casual survey work as a direct result, surveying Badgers and Bats for a consultancy and *Phytophthora* on Cannock Chase which was a huge bonus. Returning to education can be scary but I found the course friendly, fun and worth the hard work and I achieved the Rangers job I sought before the course was complete. I am now back at Staffordshire University in my spare time hoping to top up my PgDIP to an MSc and would recommend the course to anyone."

Prize-Winning Masters Project

Our congratulations to Jeanette Usher who has been awarded the Best Masters Project Report Prize at the July 2012 graduation ceremony. Her project, supervised by Dr Sue Bird, was entitled "Changes in the HGD Gene in Alkaptonuria Patients from the UK; An examination of the genotype-phenotype relationship" and was carried out at the Royal Liverpool and Broadgreen University Hospital NHS trust. The research tried to link the variations in the severity and outcomes of the genetic disease alkaptonuria to specific mutations in the gene causing it. The report was awarded a distinction grade, Dr Harry Mountain said "Jeanette's work on the modules of the MSc Molecular Biology was consistently of a high standard but her project was exceptional, receiving specific praise from the external examiner".

Jeanette's research contributed, along with that from a large research group from the Institute of Ageing and Chronic Disease, University of Liverpool, to the Royal Liverpool and Broadgreen University Hospital NHS trust being awarded the National Reference Centre for alkaptonuria by the Department of Health. She is seeking approval to carry out genetic tests for alkaptonuria as an NHS funded and approved service and one of her roles is to co-ordinate sample collection and to continue to sequence the HGD gene in new patients. Jeanette is also becoming involved in new projects related to genetic markers for oxidative stress and Paget's disease.



Jeanette Usher (centre, front) at the January 2010 DNA Techniques practical course

Jeanette says "Once again a big thank you to all the staff involved in running the MSc course, I couldn't have achieved this without your help and expertise".

Workshop on feedback

A well-received Higher Education Academy (HEA) workshop on feedback was organised and delivered in May by Paul Orsmond.

In the morning the workshop focused on ways of structuring feedback using the GOALS process and HEA representative Lynn Vos was very supportive of the approach. After a tasty lunch during which the GOALS process was discussed, there was a stimulating presentation from Dr. Anne Crook from Reading University who spoke about the recent ASSET project on feedback and assessment. This presentation also highlighted the close link between Staffordshire University and Reading in terms of research into feedback and assessment practice.

The delegates were enthused and left with new ideas and more creativity in terms of their own practice.

Science Clubs

Staffordshire University has been working with a group of local schools through their Science Clubs as part of a nationally-funded HE STEM Programme to encourage more engagement with schools and support for graduates undertaking Science, Technology, Engineering and Mathematics (STEM) subjects.



An event was held in the Science Centre at Staffordshire University on 12th July 2012 to celebrate the achievements of the local HE STEM Secondary Schools Cluster. Pupils from local school STEM clubs were presented with certificates for their contributions to project activities. The event was attended by the pupils, their parents/carers, their school STEM club staff and University student ambassadors and staff.

Following the awards an interactive public lecture was presented by Dr Angela Priestman incorporating aspects of her research into the biochemistry of haematophagous insects (insects which feed on blood). The lecture was designed to be thought-provoking and demonstrate both contemporary research and hypotheses in this area and the importance of students studying STEM subjects and contributing to research and future developments.

Prize-Winning Students

Saba Ahktar won the IBMS President's prize for the most improved student.

Trust Diya won the Best Performance in Level 6 Prize.

Sam Guest won the Best Performance in Level 5 Prize.

Kathryn Challis and Jon Piper jointly won the Best Overall Prize in Level 4.

Chelsea Flower Show winner



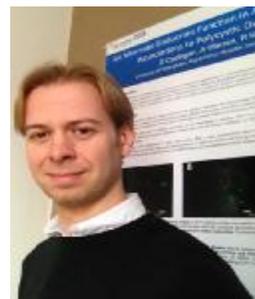
This garden design/engineered ecosystem exhibited by Humko Bled Ltd and designed by Tomaz Bavdez, was on a display at the 2012 RHS Chelsea Flower Show in The Fresh Gardens category. It was awarded a Silver Gilt medal and won a prize for the most creative garden. Tomaz is a former student of Staffordshire University's MSc Habitat Creation and Management course.

The Soft Machine garden has been designed to provide ecosystem services, processing and recycling waste within an attractive setting. Inspiration for the garden's title came from the William Burroughs novel of the same name, where "soft machine" is a synonym for a human body. The human body plays its part in the processing, helping to pump waste water to the top of the modular living walls and filtering units, whilst training on the exercise bike – nothing is wasted. Marsh planting predominates and both the planting and landscape materials serve as additional water filters. The elevated platforms seem to float in the air, farming rainwater processing units in conjunction with the pools below. Planting on top of the platforms is inspired by raised mires plant communities. The garden is calm and serene despite its diverse elements, textures and colours.

New Staff in Biology

Another part-time lecturer has been taken on in Biology.

David Cadagan has just finished his PhD in reproductive medicine with a focus on endocrinology and is awaiting his viva. His thesis was entitled "The molecular mechanisms of insulin action in human theca and adipocyte cells of women with Polycystic ovarian syndrome". He worked as a small-group tutor for first- and second-year medical students at Nottingham University's graduate entry medical school whilst doing his PhD at The Royal Derby Hospital as part of the Obstetrics and Gynaecology department.



David has been working on a collaborative pilot study with Dr Stephen Merry in the effects of Luteinising hormone and insulin in the proliferation of adipocytes which has been accepted as a poster presentation at the British Pharmacological Society annual meeting in London in December. The abstract will be published in their PA2 magazine. He is now seeking funding for research into adipocyte metabolism and diabetes in the department with Stephen whilst working part-time with the first and second years as part of the biology team.

David did his degree (biomedical science) here at Staffs and graduated in 2008.

The Science Centre



Photographs from the Hedgelink Conference held in the new Science Centre at Staffordshire University



Continuous Professional Development

Biological Sciences at Staffordshire University offer Short Courses in Biological and Biomedical Science, accredited by the Institute of Biomedical Science.

For further information see:

http://www.staffs.ac.uk/faculties/sciences/subject_and_courses/biological_sciences/biol_wbl_cpd.jsp

Courses in Biological Science

Biological Sciences Undergraduate Courses

- [Animal Biology and Conservation \(BSc\(Hons\)\)](#)
UCAS code: CD13
- [Biology with Microbiology](#)
UCAS code: C1C5
- [Biology \(BSc\(Hons\)\)](#)
UCAS code: C100
- [Biology with a Foundation Year \(BSc\(Hons\)\)](#)
UCAS code: C101
- [Biomedical Science \(BSc\(Hons\)\)](#)
UCAS code: B900
- [Forensic Biology \(BSc\(Hons\)\)](#)
UCAS code: F411
- [Human Biology \(BSc\(Hons\)\)](#)
UCAS code: B150

Biological Sciences Postgraduate Courses

Some postgraduate courses can be taken at the Level of Master of Science, Postgraduate Diploma or Postgraduate Certificate

- [MSc, PgC, PgDip in Habitat Management and Conservation](#)
- [MSc, PgC, PgDip in Ecology and Conservation](#)
- [MSc, PgC, PgDip in Invertebrate Ecology and Conservation](#)
- [MSc, PgC, PgDip in Urban Ecology and Conservation](#)
- [MSc Molecular Biology \(Distance Learning\)](#)
- [Pg Certificate in Molecular Basis of Disease](#)
- [Pg Diploma in Molecular Biology for Healthcare Professionals](#)