
A new SPRU report assesses whether companies should be allowed to buy and sell the right to emit pollution. The report’s publication coincides with Britain’s signing of an international agreement which will require a substantial reduction in emissions of sulphur dioxide.

Pollution on the market: the US experience with emissions trading for the control of air pollution was researched and written by Steve Sorrell and details the United States approach to acid rain, which will involve halving sulphur emissions from power stations by the end of the decade. The protocol document signed by the British Government on Tuesday 14 June, commits the UK to an 80% reduction in sulphur emissions by 2010.

The SPRU research concludes that the tradable emission permits approach could cut the cost of reducing pollution by up to one-third, but may conflict with regulations that address local pollution problems. Trading pollution too widely and freely can pose threats to local air quality; in the US only a small amount of emission trading has taken place because electricity companies have been held back by state level attempts to protect the local environment.

The British government has expressed a keen interest in using economic instruments, such as emissions trading, to deal with problems like acid rain, but there are contentious issues involved. The initial distribution of emission permits, which some say is equivalent to handing out money, is itself a source of ethical debate.

The SPRU report also found that up to a quarter of the expected cost savings in the US may be absorbed by the costs of pollution monitoring: accurate measurements are essential for the system to work. The SPRU analysis of US experience may prove a valuable tool to the UK Government in forming a new, market-based approach to the demands of the new emissions protocol.

Opera Première on the South Bank

Craeig’s Progress is a comic opera written by Martin Butler of EAM with a libretto by Stephen Pruslin. It will receive its première on 29 June at the Queen Elizabeth Hall, performed by the Mecklenburgh Opera. The work, according to Martin Butler, is a comic opera in more than one sense. “It is not only humorous,” he says, “but the visual and verbal language is in the style of the American comic books of the Forties and Fifties.”

Craeig is an ordinary ‘Clark Kent’ figure who follows a personal voyage of fantasy: he wants to be a superhero, and sets out to achieve his goals. Eventually Craeig learns that power is something that has to be shared to be useful.

This is Martin’s first full length opera. He is involved in rehearsals at the moment, but will not be involved in the actual performance. “For the singers this is something of a virtuoso piece,” he says. “Five singers are required to perform forty-nine roles – they have to change their costumes in full view of the audience. It certainly adds to the comedy.”

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See page 7 for a report on the Bulletin Photo Competition which was sponsored by Hearst Gate.
First Prize of £50 to Frances Aldrich
Second Prize of £30 to Janet France
Third Prize of £20 to Sue Bullock

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The recent scare stories about the "flesh-eating super-bug" Group A haemolytic streptococcus have kept various members of Biols busy, but not worried. What makes this bacterium particularly interesting to people such as Chris Dowson, who works on bacterial resistance to antibiotics, is that although it can be extremely virulent, it's not resistant to antibiotics, even though many other bacteria are. Not all strains of Group A streptococcus are responsible for necrotising fasciitis; others are responsible for the majority of sore throats in children, and others for rheumatic heart disease and scarlet fever. The latter is caused by a toxin released by the bacterium, whereas the sore throat and heart disease are caused by the bacterium directly. So the scare-stories should be taken with a pinch of salt.

On the other hand, just because something is rare it does not mean it should be ignored. Tuberculosis, for instance, became so rare in the US that funding for research and tuberculosis-related healthcare dropped drastically. Consequently, there were too insufficient resources available to follow up on the few cases that still came to light (thus failing to prevent further infection), and too few resources to ensure that the prescribed antibiotics were taken for long enough to kill the infection (a consequence of which can be the development of resistant strains). The result? Tuberculosis is now on the increase, and in forms that are resistant to certain antibiotics. Which is why research into the mechanisms of resistance, by the likes of Chris Dowson and Brian Spratt, is so important.

Next door to Chris Dowson is Simon Morley, who is funded by the Wellcome Trust to study the ways in which cells grow. He has recently been offered a senior research fellowship by the Medical Research Council to study how cells trigger their own growth. The basic building blocks of cells are proteins, and the machinery that manufactures these proteins is made up of other proteins. But what switches the machinery on? Using radioactive labelling, one can show that during cell growth (which can be stimulated using certain hormones), the molecular structure of these proteins changes, to incorporate a "phosphate group" (another kind of molecule).

The radioactive labelling is simply a way of attaching a marker to the phosphates so that one can see where they end up. Too much of these "phosphorylated" proteins leads to uncontrolled cell growth (leading to an explosion of new cells). Simon Morley's research will explore exactly how it is that the application of hormones results in the incorporation of the phosphate group into this particular protein, and exactly how this then results in the production of new protein leading to cell growth. In the long term, this research may even shed light on the kinds of uncontrolled cell growth that characterise tumours.

On a rather different note, Trevor Beebee has recently been funded to the tune of £133,000 by the Agriculture and Food Research Council, with additional funding from English Nature, to study the genetic implications of being a member of a diminishing population of animals. One of the basic tenets of evolutionary theory is that reproduction leads to the different genes in the "gene pool" being combined with one another in new combinations which may prove advantageous to the survival of the species. The smaller the gene pool, the less likely the species will improve (because there are fewer possible genes to combine with one another). And as the gene pool diminishes, certain genes that may be important for the survival of the species may be lost. By using protein and DNA fingerprinting, it's possible to establish the "biodiversity" of a population (in effect, a measure of the extent of the gene pool).

Trevor Beebee has been funded to develop the molecular genetic techniques involved, and to test them out on the frog and toad populations. One interesting use to which the fingerprinting technology can be put concerns the degree to which artificial barriers, such as motorways, really do restrict the movements of, in this case, frogs and toads. If they did, they could then threaten whole species because of the ensuing in-breeding and the lack of "new" genes from other populations. DNA fingerprinting can be used to monitor whether any genes other than those contained within the trapped population are appearing in the offspring. If they are, then that's a sure sign that the odd frog's slipping through. So molecular genetics is yet another tool at the forefront of conservation.

In Experimental Psychology, Jane Oakhill has been awarded £180,000 over five years to study children with comprehension difficulties. The particular problem that she's interested in concerns the surprisingly large numbers of children who at around the age of seven can read aloud quite fluently and yet whose comprehension of what they are reading is very poor. Preliminary research has established that around 8-9% of children suffer in this way. Typically, schools assess children's reading ability by listening to them read, without necessarily testing their comprehension afterwards. So a child who reads fluently but who doesn't comprehend so well may not be spotted.

Jane Oakhill, in collaboration with Peter Bryant at Oxford University, will carry out a study to establish what happens to these children over a three year period. Currently, because these children aren't spotted, there's no remedial help for them, which makes it all the more crucial to follow them up and see how they get on. And if they're still disadvantaged three years on, is this disadvantage restricted just to their reading, or are there other learning difficulties which may then arise?

The question must then turn to what kinds of remedial teaching would be beneficial. With all the attention that's been focused on the literacy of the country, it's no wonder that this research is so keenly supported.
Some Things Will Never Change...

Psychotherapist Nancy MacKenzie is retiring from the Counselling and Psychotherapy Centre this summer, after twenty nine years at the University. Although she has seen a huge amount of change over the years, one thing that hasn’t changed, she says, is the burden that students feel.

“When you become a student there are expectations placed upon you,” says Nancy. “You are supposed to be competent and able to tolerate everything. The peer group is full of demands to be able to make relationships work, and manage without any support.”

Nancy compares some aspects of the student life to being in a refugee camp. Arriving at university can be a sudden loss of all previous stability: the familiarity of being at school or at home can be a traumatic thing to lose. “It’s a time of transition; you are on the way to a new country - being independent,” she explains. “You need to be able to feed yourself, both in a literal and an emotional sense. Suddenly you have to cope with this, and you are surrounded by other people with the same problems.”

These demands, says Nancy, lead to feelings of inadequacy and failure amongst many students. “People are ashamed that they feel under-resourced,” she says. “Having any kind of difficulty is often associated with shame and failure, rather than just being part of our lives.”

People often tell distressed students that they should be appreciating their privileges, rather than complaining. This message comes from a failure to understand the enormous sense of dislocation some students experience. Seeking help can be seen as a symptom of failure but, according to Nancy, it is a natural course to take.

“They shouldn’t be afraid or ashamed to feel fear, and to want to connect up with someone who can make sense of it,” she says. “After all, life is enhanced by being able to understand one another.”

There will be a farewell party for Nancy on 24 June, 5–6.30 pm in the Counselling & Psychotherapy Centre. All friends and colleagues are invited.

University Public Lecture

Tim Flowers PhD DSc
Professor of Plant Physiology
Professorial Lecture
WILL THERE EVER BE SALT TOLERANT CROPS?

Tuesday 21 June at 6.00 pm
Molecular Sciences Lecture Theatre
All welcome
No tickets required

In his lecture Professor Flowers will be discussing the effects of salinity on worldwide crop yields. Around 70% of the world’s surface is covered by a salt solution which is inimical to the growth of most, although not all, plants. Halophytes have evolved to flourish in both maritime and inland salt marshes. These plants survive through a mechanism of separating the salt necessary for the maintenance of their water content from the metabolic machinery in their cells. The ability of some plants to survive on highly saline soils holds out the prospect of developing crops able to yield on the salt-affected land that will need to be cultivated as the world population grows to more than eight million by the year 2025. There has, however, been little success to date in spite of sustained research over the past 20 years. Work at Sussex suggests that the key lies in understanding the physiology of the resistance to salt.

ENVIRONMENTAL RESEARCH GRANTS FOR SUSSEX

The ESRC has recently awarded grants to four Sussex research projects under its Global Environmental Change programme.

FRANS BERKHOOUT of SPRU will be analysing the lifecycles of consumer goods. He will be conducting surveys of companies in the UK, Germany and Holland to see how far Lifecycle Analysis (LCA) is used in the development of new products, and whether environmental pressures are encouraging firms to take the long-term lifecycles of their products into account in the design and innovation stages.

PETER DICKENS, with JOHN PARRY, ROB TOMLINSON and MARGARET WOOLI, will be surveying the environmental awareness of schoolchildren before and after they take on a project to study their local environment. Peter will first of all carry out the project in Lewes schools, where children will use local wildlife sites as a base for environmental education. As well as field studies, the children will be encouraged to use videos and interactive computer programs to boost their environmental awareness. Peter will also carry out similar studies in Docklands and Sheffield schools.

MATTHEW GANDY will study urban environmental problems such as waste, energy use and water management, focusing on New York’s urban environmental policies.

JULIAN SAURIN’s research will focus on the way people take up environmental knowledge. It will be a theoretical and conceptual study, attempting to gain an understanding of the processes involved in global environmental change. The research will show the need for a consistent account of environmental changes in order to discern the most appropriate points of intervention.
Shopping Grants

Jenny Shaw and Janice Winship of CCS have just been awarded £66,405 by the ESRC to study the place of Marks and Spencer in the high street, and in the hearts and minds of the British nation. As everybody knows, M&S has a ‘benchmark’ place in British shopping culture: at some point in their lives most British people will shop at M&S. High quality goods in undramatic styles, safety from predatory assistants and easy exchange policies have enabled M&S to assume the status of a public service, such that the threat of M&S leaving an area can cause an outcry. Darker sides to the store’s success do exist however. The company forbids union membership amongst its staff and it has a reputation for ‘squeezing’ its suppliers.

The researchers will use a wide variety of methods to try to understand the meaning of M&S for those who do, and those who don’t, shop at the store. Interviews will be carried out with M&S personnel, the store’s suppliers, and groups of shoppers in Wolverhampton and Brighton. Press reports on M&S, customer suggestion slips, and M&S promotional material will also be analysed. A Mass-Observation ‘directive’ will be commissioned, enabling comparisons to be made between M&S and other stores, and in order to access people’s stories and memories of M&S.

The aim of the study, the researchers insist, is to explain the place shopping, and M&S particularly, plays in forming the patterns of everyday life; it is not designed as a plan for improving sales. “Although M&S carry out very little market research, they are very confident about knowing their own customers,” says Janice Winship. “I think they would be surprised if we could tell them anything they don’t already know.”

DIABETES BY CELL SUICIDE?

Diabetics are unable to put ingested glucose to work, and as a result their body cells are starved of nutrients. The glucose accumulates in the bloodstream and spills over into the urine; large amounts of water are also lost – the name ‘diabetes’ is actually derived from the Latin for ‘excessive sweetened urine’.

The root of the problem lies with insulin, the hormone that stimulates the body to take up glucose. In diabetics it is defective, and children with diabetes usually have to inject themselves with insulin every day. The need for properly functioning human insulin was such that in 1982 cloned human insulin became the first genetically engineered product to be approved for human use.

Twelve years later the pace of progress in diabetes research is ‘breathtaking’, according to Dr Irene Green of BIOLS. An understanding of its mechanisms, however, is still a long way off. Diabetes affects a huge number of people worldwide, and as a result almost every country in the world is involved in research into its causes. Dr Green’s work is primarily concerned with investigating the way in which insulin-secreting cells are killed in diabetics.

This cell-death appears to be connected with the immune system of a diabetic. In Type-1 (childhood-onset) diabetes, a fair amount is understood about those people who may be prone to the disorder. Their immune systems have certain characteristics which, in the wrong combination, increase their chance of getting diabetes. “If you want to really predict diabetes strongly,” says Dr Green, “you look for a huge number of these predisposing factors. If you have all of them combined you might have a 50:50 chance of getting diabetes.”

The immune cells produce chemicals known as ‘free radicals’ which are capable of attacking the insulin-secreting cells. However, this may not be to blame for the cell death.

Dr Green’s group were the first in the world to discover that insulin-secreting cells, when in close contact with immune cells, can produce an enzyme which makes nitric oxide which, in high doses, can destroy cells. It is possible that the insulin-secreting cells of diabetics are producing their own poison and simply committing suicide.

Solving the puzzle and finding the real killer will be harder than it would seem. "Nitric oxide can be lethal on its own, or it could be interacting with other radicals and species to generate something that is even more dangerous," explains Dr Green. "It can also cooperate with some proteins produced by the insulin-secreting cells, producing other lethal chemicals." Once this detective work is done, however, diabetes researchers are confident that it will be possible to stop the process.
The MOle

Sussex University has much of which it should be proud. The Times has again published its yearly rankings of the Universities, and Sussex has again figured prominently. Given the enormous controversy that these rankings attracted the first two times around (not least because of their inaccuracy), it is probably fair to assume that this time they are slightly more representative of reality. So comparisons between how we did those last times, and how we’ve done this time, are probably inappropriate. The good news is that we rank ninth in terms of government and (medical) charity supported research income per faculty member, and fifth in terms of contract research income per faculty member (third last year). The bad news is that we rank 47th in terms of student-staff ratio. For the arithmetically-challenged, this means that we have more students per faculty member than many (in fact, 46) other universities. Only a handful of “old” universities fare worse than us. The fact that our completion rates are so high (only 4 “old” universities do better) suggests that our teaching and research faculty are clearly cost-effective and efficient lot. Promotions all round, please.

The Times Good University Guide (on which the rankings are based) singles out certain departments for special mention. One of these has been singled out at Sussex because it “won a top rating in the 1992 research ratings”. But The Guide fails to mention that it is also the most cost-efficient of any University department in the entire UK. Remarkably, it contains as many faculty as students, and yet is totally self-sufficient, requiring no input of funds from the University itself. Yes, Dentistry is a remarkably successful department here at Sussex. A bottle of the usual to any, or all, faculty who can claim to be members of this illustrious subject group. Similarly, a bottle to anyone who can raise a ringing tone on the telephone number for Sussex University as listed in The Guide.

So how much credence should be given this guide? In discussing the arguments against taking the number of first-class degrees awarded at each university as a measure of the quality of that university, The Guide says that “all these arguments suggest more that the system by which firsts are awarded is in need of reform rather than that their use as an indicator of quality is flawed.” Oh that’s ok then; we can gaily use the indicator, even though the thing it measures is a complete nonsense. Just as well these people aren’t running the country.

But Sussex has more to be proud of than its academic achievements (real or imaginary). It boasts, for instance, the only underpass to contain a bridge. By some incredible sleight of imagination, it proved far easier to build a bridge-like structure over the flood-plain at the bottom of the A27 underpass than to simply unblock the drain. The structure itself consists of (fast rotting) wooden supports on which rest paving stones occasionally connected by the slap-dash application of whatever it is they make roads out of. Actually, the paving stones don’t quite rest, they rock. And so far as the Mole can tell, but despite the obvious conclusion to which anyone would first jump, Estates had nothing whatsoever to do with this. Whoever was legally responsible for the provision of this ill-designed structure would be well-advised to indemnify themselves against the writs which would justifiably ensue should anyone slip, trip, fall off, or drown.

Finally, the National Radiological Protection Board have just announced the results of one of the most comprehensive studies of the link between VDU usage by pregnant women and the incidence of miscarriage and congenital abnormalities. There is none. Phew... They note that the incidence of spontaneous abortion is approximately 15 in every 100 pregnancies. This sounds like a lot, but some aren’t even noticed. On the other hand, the incidence of spontaneous malfunction in a VDU appears to be quite a bit greater that 15 in every 100. So on balance, the VDU is at greater risk. Still, the good news is that VDUs do no harm, and pregnant mothers who work at VDUs should instead worry about the harmful effects of smoking. Smoking May Damage Your VDU.

EQUAL OPPORTUNITIES

Last week the Commission on University Career Opportunity (CUCO) launched its drive to help universities make the most of the talent at their disposal, with the publication of a survey on universities’ equal opportunities policies. The survey reveals that 93% of UK universities have equal opportunities policies, and another 2% are drafting one. 80% have policies on sexual harassment and 71% on racial harassment. However, only 37% of universities have committed themselves to action plans to ensure these policies are realised.

Dr Anne Wright, Vice-Chancellor of Sunderland University and Chair of CUCO said, “The results of this detailed survey are encouraging and show the progress which universities have made in developing good equal opportunities policies. But there is room for improvement on implementation. Statistics reveal that women and members of ethnic minorities are still under-represented among university staffs. We must strive to make better use of the many talents that these and other groups have to offer.”

Among students, women are now only slightly under-represented — in 1991/2 women formed 48.3% of all full-time students — and members of ethnic minorities are better represented among university students (8%) than in the 18-24 population in general (6%). However, achieving a balance among staff is more difficult and there is considerable scope for improvement in both the ‘new’ and ‘old’ universities.

For example, in the ‘old’ universities women form 33% of those on Lecturer A grade but account for only 5.5% of professors. Even in administration, where women form 56.6% of those on the lowest grade they account for only 10.2% of those on grade 6 and women form 84.1% of Grade I manual staff but only 28.8% of those on Grade 4.

As part of its campaign, CUCO is asking university staff to suggest ways in which universities can help redress staff imbalances and a poster, inviting staff to write to the Commission, is currently being distributed to all universities. According to Dr. Wright, “CUCO’s job is to help all universities put good practices in place and live up to the aspirations so clearly set out in their policy statements.”
WHAT THE PAPERS SAY

Nicholas Tucker (CCS) argues that the depiction of childhood in museums has traditionally been one-sided concentrating on the minority of children rich enough to own expensive toys and overlooking the experiences of the vast majority of working class children (3 June, THEES). He points out, however, that various childhood museums have attempted to redress the balance such as that in Bethnal Green which exhibits dolls crudely carved out of mutton bone. It also plans a major display of childhood to include beggars, riffians and prostitutes.

Better still, he believes, are museums which allow for some form of interaction. A point in case is Sudbury Hall’s Museum of Childhood. Here, Nicholas Tucker has observed, “Half-amused and half-alarmed primary school children dressed up in smocks take part in lessons strictly taught by voluntary Victorian teachers.” Mr Tucker adds, “This is far more rewarding than simply sticking in toys and games and leaving it at that.”

An article in the THEES (3 June) by Professor Maggie Boden (COGS) argues that one of the surprises of the past 50 years, since artificial intelligence began, is that, “Simple tasks are even more difficult to mimic artificially than the so-called higher functions, such as mathematics and logic.”

To understand how our minds perform such everyday tasks, recent computational interest has centred on our biological origins and advances in neural networks, situated robotics and artificial life have led some to proclaim that, “Brain-like computers are just around the corner.” “But,” argues Professor Boden, “don’t hold your breath.” Whilst exciting, such advances remain a long way from producing computers that will surpass let alone replace us. “The real excitement,” she argues, “is in the further development of these and other artificial intelligence methodologies.”

THE NEXT RESEARCH ASSESSMENT EXERCISE

The Higher Education Funding Councils have announced the framework for the 1996 Research Assessment Exercise (RAE). The shape is broadly the same as for the 1992 RAE, but with some significant changes, marked ***.

* Submissions invited from units of assessment, probably for Sussex, unchanged in definition from 1992 (so no new interdisciplinary units)
* Census date: 31 March 1996 (submissions to be made by 30 April 1996)
* Researchers within scope for Sussex’s submissions to be those active here between 1 January 1992 and 31 March 1996

*** Each active researcher in post on 31 March 1996 may nominate up to four items of ‘public output’ (publications or other forms of assessable output) produced between 1 January 1992 (1990 for arts and humanities) and 31 March 1996, and, even if not a co-author, may include work of research students and assistants

*** No works accepted for publication but not published by 31.3.96 may be nominated

*** No statistics of publication, either for individuals or for the unit of assessment, required

* Similar requirements as in 1992 for statistics of research students and studentships and of external research income

*** No separate submission and assessment of basic/strategic and applied research

*** Five-point rating scale extended to seven-point, by splitting 3 and adding 5+ for the top end of 5

* More bodies prominent in or representative of the communities making use of research, to be identified and asked to nominate to assessment panels

* Assessment panels to announce their assessment criteria in autumn 1995

All researchers are urged to review their eligible publications, etc. to date and their plans for publication up to March 1996, and to seek to ensure that the quality of their work can be fully reflected in the work they will be able to cite.

—— John Farrant
Director of Research Administration

B

ill Clinton’s return to Oxford, where he studied from 1968-1970, naturally generated a great deal of media interest. The Guardian (Front Page, 9 June) found that Clinton’s Oxford contemporaries, including Mandy Merck (CCS), had only positive things to say about him. For instance, despite a presidency dogged with accusations of sexual misconduct, Mandy Merck saw no evidence of any: “He had too much affection for women to abuse them,” she said. She also remembers him talking after Chappaquiddick: “It was the first time that I remember misbehaviour in high places coming into the public domain and I remember him saying that they were real jerks who thought they were God’s gift to women and he hoped he would never turn out like that.”

Two Sussex Alumni have been caught fighting. David Hallam (CCS 1967-71) and Sir Christopher Prout (EURO 1969-73 and Lecturer in Law) contested the Herefordshire and Shropshire seat in the European Elections. Hallam (Lab) won with a majority of 1850 over Prout, who was the leader of the Conservative MEPs.
ROBIN LEE POETRY COMPETITION 1994

This week we are pleased to publish Norman Sacuta's poem which was the single best entry in the Robin Lee Poetry Competition. Norman is a postgraduate in EAM reading American Studies.

Death of a Scuba Diver at West Edmonton Mall

Aura is the unique phenomenon of a distance, no matter how close the object may be.

— Walter Benjamin
The Work of Art in the Age of Mechanical Reproduction

The fish need to be imagined around him, finning clear shadows along panes of glass. He sees people talking where sharks whiff their tails, palms pressed like mimes against glass—the walls he can see through enclose them in a shaped cave of air.

His own is running out. Even if he struggles, wet suit and tank pinched in the filters he's come to service, they'll wonder at the hydraulics that make his movements so lifelike. But no one is watching, anyway—the sharks are real and closer.

His head tilts upward to the bridge where shoppers check reflections on smooth water; their wishes flutter down to him like tin foil. They imagine their coins are the cause of occasional bubbles that stop.

His is a better death than most—that same day children tumble down slides to a man-made lake, burn under a false sun stronger than the tilted earth provides this northern city; everywhere girls turn they see themselves in mirrors and know the thin mannequins are better dressed. And on Bourbon Street, the bronze hooker holds her clenched fist forever failing to scare a cop.

The diver will be found a day later, and will not happen again.

The Queen's Birthday Honours

Our warmest congratulations to Professor Hans Singer, (pictured right) University of Sussex Emeritus Professor and Professorial Fellow in IDS who has been awarded a Knighthood in the Queen's Birthday Honours for services to economic issues. Others who received honours included:

Knighthoods for John Daniel, Vice-Chancellor of the Open University, for services to higher education; Andrew Bowden, MP for Brighton (Kemptown) for political services; Martin Holdgate, Hon DSc (Sussex) and former Director-General, International Union for Conservation of Nature and Natural Resources, for services to conservation.

CBEs were awarded to Brian Manley, Vice-Chairman of the University Council and Mrs (Irene) Joan Thirsk, Agrarian historian, who received the Honorary Degree of Doctor of Letters at this year's Winter Graduation Ceremony, for services to agrarian and local history. Colin Brummitt, former Deputy Finance Officer at Sussex, received the OBE for services to higher education.

PHOTOGRAPHIC COMPETITION

The Bulletin photographic competition has been won by Frances Aldrich, a postgraduate student in EP, for her photograph 'Exams II'. She wins £50, donated by Heanor Gate, printers of the 1995 undergraduate prospectus. Second prize goes to Janet France of EHE for her photo-montage of routes to work, and Sue Bullock of MAPS won third prize for her photo of the MAPS staff/student cricket match. Janet wins £30 and Sue wins £20: both of these prizes were also donated by Heanor Gate.

The competition was judged by Keith Wilson, manager of the Photographic and Design Unit, Katy Bignell, University Graphic Designer, and Alison Field, Publications Officer.

"There were about seven real contenders for the prizes," said Alison Field. "But the winning entries had something a bit different from all the others. The first prize winner showed excellent composition, and had a subject that all students could identify with—an examinations hall."

A wide range of entries from staff, students and faculty offered very different views of University life. The judges were particularly impressed by the large number of entries from overseas students, many of them depicting snowy scenes on the campus.

Janet France's entry was another easy image to identify with. Snapshots of various campus paths that she follows every day on her route to Arts D were cleverly merged into an eye-deceiving winding trail.

Sue Bullock's photograph of the cricket match conveyed the fun, community side of campus life, the judges felt. It was also no mean technical achievement to get such a good picture of a sporting event.

All of the entries to the competition will be on display in the foyer of Sussex House from Monday 20 June.
PAYING YOUR WAY IN THE USA

From our imported sitcoms we have the notion that American Mom and American Dad pile money into little Joey's college fund, almost before he is born. Although this is not a fair representation, the funding of higher education across the Atlantic is very different to our own system, as Rupert Wilkinson, Professor of American Studies and History will testify: he is currently writing a book on the history and current politics of student financial aid in American institutions.

"I'm very interested in who pays what money to whom in American higher education," he says. "Student funding in the USA has to include tuition fees, and these are very high in the private sector, but colleges are able to put together aid packages for students who need it. All kinds of things are done to make it possible for people to go to college more cheaply."

Traditional efforts to confine student aid to a basis of need have been eroded, however. Colleges offer scholarships to outstanding athletes, and music conservatories will make a big pitch for an extremely talented student. The pressure to 'buy in the best' cannot be resisted in what is essentially a market system, but each college does offer three forms of help for the needy: scholarship grants, low interest loans, and the provision of jobs.

"It's an interesting part of American college culture that jobs are counted as part of student aid," says Professor Wilkinson. "Throughout their history there have been things like co-operative dormitories, where students do a great deal of the work, like cooking and cleaning, and so reduce their costs."

On the campuses, low-income students are given priority access to any available paid work. Whether or not this detracts from their studies is questionable, says Professor Wilkinson: some students are extremely well-motivated. "I know the Dean of a state college in New Jersey who is very concerned to recruit bright minority and low-income students," he says. "She has great faith in their ability to fill every nook and cranny of their day with work."

Even with paid work, American students still incur huge debts: figures such as $11,000 are often seen as a fairly small debt on graduation. Parental borrowing to support a child's education is a much stronger tradition than in the UK, but, according to Professor Wilkinson, it has recently reached a crisis point. "There has always been an understandable resistance to borrowing amongst the lower classes and minority groups," he says. "But middle incomes have stagnated through the eighties, and we are now reaching the limits of American middle class readiness to borrow."

Paying for their education does not necessarily give American students any of their huge motivation to succeed, he says. "I think there are reasons, other than financial ones, for the terrific work drive of American students. Grade-hunting, knocking off another paper, performing; it's so much a part of their student culture."

HUMAN CAPITAL AND MOBILITY
ALGEBRAIC GEOMETRY CODES

In every disc drive, in every modern telephone, in every compact disc player, error correction is built in. The basic mathematical idea is as follows: Supposing we wish to send the messages YES and NO. Then, it would suffice to use the code: $1 = \text{YES}, 0 = \text{NO}$. Any error in transmission would not be detected, since whether 1 or 0 arrived we have an understandable message. However, if we change the code to $111 = \text{YES}, 000 = \text{NO}$, then if the received message was 110, we see that there is one digit different from the codeword for YES and two digits different from the codeword for NO. So, if there has been at most one error, then the correct message was YES. Effective codes which can convey many messages with speed, efficiency and much error correction require more sophisticated mathematics. The mathematical tools are linear algebra, finite fields, polynomials, projective geometry and algebraic geometry.

This HCM project, set up with a grant of £200,000 ecus from the European Union, is to establish a network to solve some of the outstanding research problems and to provide training for post-doctoral fellows. Sussex is one of eight European teams taking part in the project. The local team consists of James Hirschfeld and his two research students Simeon Hall and Stephen Packer.
The Tour de France, the world's biggest annual sporting event, arrives in Brighton on 6 July. This will be a tremendous day for Brighton, but the scale of the event will inevitably create a few problems – particularly for people who need to cross town during the afternoon.

The opening British stage will start at Dover Castle and finish in Brighton, arriving in the town after a gruelling ascent of Ditchling Beacon from around 3.30 pm. Hundreds of thousands of spectators are expected to line the town centre circuit to see the 180 cyclists and the colourful cavalcade pass by along the route leading up to the finish at Marine Parade on the seafront.

A number of roads on the route will be closed between 1.00 pm and 5.00 pm on 6 July. See map above for the roads affected. The usual parking arrangements may not apply so allow a little longer to travel that day as the roads will be more congested than usual.

The University has been asked to provide about 500 car parking spaces on 6 July for the public to use as a 'park and ride scheme'. As it is during the vacation and parking spaces will be available, it has been agreed to allocate the whole of the Science Car Park for the day.
ALL IN A DAY'S WORK

Andrew Hood is the Staff Development Officer. Based in Sussex House, his job is to arrange, administer and sometimes teach all kinds of courses aimed at improving the skills and resources of all university employees. According to Andrew there is no role within the University community that cannot benefit from further training. Here he talks to Mike Brooks about his own role at Sussex.

So far the staff development programme has worked very well, mainly because it's based around what people want to do for themselves. Anybody can approach me at any time with any suggestion: the worst that I can do is say 'no'. Most of the time we're fairly flexible, and if somebody wants to do something that is useful, either to the University or to them, then we can nearly always find a way to do it. My role is to arrange courses and sometimes to run them myself, but above all it is to ensure that everyone's training needs are being met.

"Obviously there's a balance required between individual desires, and what the University needs, but it's mainly about personal development. There is usually some work-related link. If somebody wanted to do a course in Advanced Dog Walking, it would be unlikely that the University would provide financial support, but, generally, if you allow people to develop themselves, the spin-off value to the University can be quite great. We're not actually looking for immediate utility. Some might say that will leave us open to abuse. People might well get the University to pay for the training they want, and then leave, but that is a risk that everyone has to take. Universities are extremely people-intensive institutions, and it's important that everyone is given the chance to develop throughout their career. Universities realise that they have a big investment in people, and there's never been a period in higher education when there's been so much change. People constantly need to learn new ways of approaching things."

"The opportunities available to people range from courses on things like accounting, counselling or personnel management to assertiveness training, which has probably been the most popular course. One of the most expanding areas are what I call 'awaydays'. A few weeks ago 32 people from MOLS went to a Brighton hotel and spent half a day looking at proposals for developing their research to maintain their very high research rating. We then spent the afternoon looking at ways of developing their teaching methods. Those are the sorts of things we've put quite a lot of effort into over the past year. They tend to be school or subject-based, and they can set their own agenda. A typical model might involve course analysis: whether there is a need for expansion, or whether things can be abandoned. In reality there is almost no limit to the possibilities of how these opportunities can be used."

"I was appointed in 1991, and I think that just about every university now has a staff development office or a similar unit of some description. It's obviously a useful facility, because people from almost every area of Sussex University have used us now. It's an area that is bound to grow.

Changing Face of Campus

The following work is being undertaken by the Estates Division. You are asked to take care in the vicinity of the work and to stay outside any safety barriers.

Work in Progress:
- Library, MOLS I and MAPS I: External redecoration, until mid-July.

Planned Future Works in 1994
- Residences: Fire precaution works, continuing 5 year programme:
  - East Slope: 20 June—end September
  - Park Village: 31 July—end September.
- EAPS I (South): Major repairs, start 27 June (10 weeks).
- MAPS II: Repair main duct to south of building, summer vacation.
- MAPS III: External refurbishment, start 27 June (scaffold start 20 June) for 12 weeks.
- MOLS I: Computing Centre: Disabled access ramp, summer vacation.
- Gardner Arts Centre: Refurbishment of heating and ventilation and repairs to parapet walls, 18 July to end of September.
- Southern Ring Road/Eastern Ring Road junction: Road crossing for BT cable improvements. STOP/GO boards in operation. 4 July (dependent on A27 roadworks completion) for one week.
- High Voltage Substations: Essential maintenance. Various dates in July and August. Building Users will be informed of disruption to electricity supply.
- Nynex data link, West of Sussex House, to the University of Brighton.
- MAPS III: External decoration, start mid-July.

Works Complete:
- Arts A—E and EDB: Fire precaution works.
NEWS FROM CCE

Students following the Centre for Continuing Education’s Media Studies Certificate showed examples of their work at a presentation in Brighton on Wednesday. They also gave talks about the problems involved in various aspects of media work such as film-making, radio and television work and book-publishing. The evening included the launch of ‘Boxing Day Baby’, a book written by Brighton resident Barbara Chapman. The work is an insight into the town’s history, presented through Barbara’s account of her own childhood before and during the second world war, and was prepared for publication by some of the students on the course.

Also on Wednesday, CCE hosted a research conference, entitled ‘Opening Gateways or Building Walls’, which attracted many of CCE’s partner organisations from around Sussex. The aim of the event was to disseminate the findings of several adult continuing education research projects which have been based at CCE, and to promote discussion of key issues, such as accreditation, access and the impact of new legislation, in Sussex and national adult education.

In September CCE will host another conference which aims to draw together people who are using life history approaches in teaching and research about lifelong learning. Delegates will be coming to this conference from across the UK and the rest of Europe, to participate in workshops, individual and collaborative accounts of work in progress, and analysis of good (and bad) practice.

Accounts of life history can be used to explore the experiences of lifelong learning, as well as its historical contexts. The accounts can also shed light on the relationships between language and personal history and identity.

Any Sussex faculty interested in attending the conference should contact Al Thomson (3585) or Mary Hoar (8449).

GOODBYE MIKE

This is the last Bulletin of the academic year, and marks the end of Mike Brooks’ contributions: he would like to thank everyone who has given their time, effort and ideas to Bulletin over the last nine months.

In August Mike is leaving the UK to spend two years in Guinea-Bissau, West Africa. He will be working as a VSO volunteer, teaching Physics in a secondary school in Bissau, the country’s capital.

SAFETY ON CAMPUS

The Students’ Union have been informed that two more of the safety campaign proposals for improvement have been passed. Plans for road humps or ‘sleeping policemen’ as they are commonly called have been passed by all but the University Council who will vote on it at the next meeting. These will be laid down along the Refectory Road and are a great success for the safety campaign, as they will slow traffic down considerably near the residences, the Health Centre, East Slope Bar and East Slope families room.

The other achievement is the fencing around Park Village play area at the back of Lancaster House, and around the East Slope Courtyard. There had been fears that children could be hurt in both of these areas without this fencing. The project will cost around £3,500 and will be completed in the Spring next year. Previous successes were the improvement of all the lighting and the addition of ten more emergency phones around campus.

If you want any information regarding the Safety Campaign, or safety on campus in general, please contact the Students’ Union Welfare Centre in Falmer House.

Anna Barnes VP Welfare

DEVELOPMENT OPPORTUNITIES

Funding may be available from Staff Development or EHE funds for faculty to attend the following events. Please contact the Staff Development Officer, ext 3849, for details of these and other events.

Developing the study skills of non-traditional students. SEEC, London. 26 July 1994

20th Undergraduate Mathematics Teaching Conference. Shell Centre, Nottingham University 5-8 September


Increasing Student Participation: A Working Conference on Engineering Education. Sheffield Hallam University, Sheffield. 12-14 September 1994

Developing Teaching in Higher Education. Oxford Centre for Staff Development, Winchester. 12-14 September 1994

Developments in Student-Centred Learning. SEEC, London. 13 September 1994


RESEARCH OPPORTUNITIES

For more information, call the Research Office on ext 3761 (Louise Vincent) or e-mail L.S.Vincent@sussex.ac.uk

LEARNING SOCIETY: Knowledge and Skills for Employment Programme. Research specification for this ESRC #2M programme now available. Closing date for outline proposals: 27 Oct. 94.

GLOBAL ENVIRONMENTAL CHANGE: phase IV of this ESRC programme soon to be announced, with themes of Business and the Environment, and Citizenship and Sustainability. Register interest now.

WANT TO AVOID QUEUING ON GRADUATION DAY?

In addition to the normal photographic service offered to graduates and their families at the Summer Graduation Ceremony, the University Photographic Unit is offering a high-quality graduation portrait service in its studio in Arts C109. This service, available during the summer (but not in Graduation week itself) offers packages of colour prints taken with appropriate background, gown, etc.

Please contact either Keith Wilson (ext 2233) or Keith Hunt (ext 2232) who will be pleased to discuss your requirements, show you examples of their work, and fix a time for your portrait session.
What’s on...

University Term Dates 1994/95

Autumn Term: Mon 3 Oct — Fri 9 Dec 1994
Spring Term: Mon 9 Jan — Fri 17 Mar 1995
Summer Term: Mon 24 Apr — Fri 30 Jun 1995

Summer Vacation Opening Hours

■ Computing Service
  Mon to Fri: 9am — 9pm
  Weekends: Closed

■ Language Centre
  Mon to Thur: 9am — 6pm; Fri: 9am — 5pm
  Weekends: Closed

■ Library
  Mon, Wed, Thur, Fri: 9am — 5.30pm
  Tue: 9am — 7.30pm
  Also open on successive Sundays from 17 July to 28 August incl. (& Bank Holiday Monday, 29 August), from 10am to 5pm. No borrowing services on these days but most self-service facilities will be available.

Lectures, Seminars, Colloquia

■ Monday 20 June
  1pm Experimental Psychology Seminar: Dopamine and Reward: A Special Role for the DI Receptor. P. Clifton, Biology Lecture Room.
  2pm Particle Physics Seminar: Quantum Circuits as a Probe of New Frontiers in Physics. T. Clark, PB2A1, MAPS I.
  4pm Women’s Studies Research Seminar: Textiles and Bartering Systems in North East Thailand and Bihar, India — a Comparative Study. S. Conway (Northbrook College), Arts D310.
  4.30pm Neuroscience Seminar Series: Communication and Social Organisation in Mammals. K. McComb, Biology Lecture Room.

■ Tuesday 21 June
  4.15pm Biochemistry and Genetics & Development Seminar: EZF: An Expanding Group of Heterodimeric Transcription Factors Implicated in Cell Cycle Control. N. La Thangue (National Institute for Medical Research), Biology Lecture Room.
  6pm Professorial Lecture: Will There Ever Be Salt Tolerant Crops? Tim Flowers, Professor of Plant Physiology, MOLS Lecture Theatre. All welcome.

■ Wednesday 22 June
  2.15pm Composition and Contemporary Musical Research Graduate Colloquium: Salome and Musical Eroticism. C. Purks (Southampton), Recital Room, Falmer 120.

■ Thursday 23 June

■ Friday 24 June
  4pm Astronomy Centre Seminar: The (Re-)Connection of Magnetic Flux Tubes With String Equations. R. Rijnbeek. PB1A7, MAPS I.

Monday 20 June — Sunday 26 June

Computing Service: Network Talks

■ Aspects of Networking
  The Computing Service has organised the following talks on various aspects of computer networks.
  Running a World Wide Web Service — Mon 11 July
  SUSST: The University of Sussex Campus Wide Information Service — Wed 13 July
  The Pier: The University’s New Internet Gateway — Thur 14 July
  The Campus Network — Thur 21 July
  All talks in Computing Centre Teaching Room.
  10am — 12.30pm. All welcome, but places must be booked. Contact Roger on ext. 2953 for details.

Sportcentre

■ Free Action Day
  The Sportcentre invites everyone to exercise, play a sport and work out for free on Tue 5 July, 10am — 12noon & 2pm — 8pm. Further details on 678228.

■ Vacation Classes
  Vacation classes below — last session indicated:
  Circuit Training: (ends Mon 18 July & Thur 21 July)
  Active Walking: (ends Tue 19 July)
  Body Conditioning: (ends Wed 20 July)
  Fitness Assessments (continue throughout, £20)

Small Ads


ROOMS TO LET: 2 furnished rooms to let near London Rd BR. Mature/PG preferred. Share kitchen and bathroom. £65pw inclusive gas and electricity. Contact 606570 before 10.30 am & after 3.30pm.

ROOMS WANTED: 2 rooms wanted to rent by 2 female non-smoking PGs (cr house to house-sit) in B’ton centre over Summer. Contact 772002.

FLAT TO LET: Fully furnished 1 bed flat in Hove. Near George St. shops, Hove BR/ buses. Kitchen, sitting room and bathroom. Available mid-June. £65pw. Contact ext. 2583 or 478549 (eves).

HOUSE TO LET: Fully furnished attractive 3 bed house in Firways area of B’ton. Available mid-September 1994 for academic year. Ideal for visiting academics. Contact ext. 4353 (am) or 505228.

HOUSE WANTED TO RENT: 3 bed unfurnished house in B’ton with garden for 2 Pgs. 1 child and 2 well trained cats. Wanted asap for 1 year plus let. Contact ext. 8543 or 670305.

PARIS FLAT TO LET: Montmartre. July, Aug or longer. £500 monthly. Contact ext. 3925 or 678562.

HOLIDAY LET: Thatched cottage in Devon. Bookings now for late Autumn, Christmas & next year. Contact ext. 8300.

CARAVAN TO LET: Holiday caravan to let (sleeps 4) on spectacular hillside site overlooking the sea on the Côte d’ Azur. Lovely beaches and walking. £150pw. Contact ext. 8361 or 682133 (eves).

Summer Workshop

■ Maths/Stats Workshop
  The ‘Centre for Mathematical Analysis and Its Applications’ has organised a workshop on mathematical problems which arise in phase transitions. Topics include models for melting of ice, phase transitions in binary alloys, crystallisation processes and many more. The workshop will attract 40 researchers. Further details available on ext. 3079 or 8108.

Musical Events

■ Summer Concert
  Sussex University Chorus final concerto programme (including Brahms’s ‘Liebeslieder Waltzes’, and Tippett’s arrangements of spirituals from ‘A Child of Our Time’). £2 (£1 concessions) on the door. Meeting House. Wed 22 June. 7.30pm.

■ Carmen
  Dynamic production of sensuous and evocative Carmen by Wandering Minstrels at the Gardner Arts Centre. Wed 22 to Sat 25 June. 7.30pm. Tickets £8.50, £7 and £6 (concs £1 reduced Wed & Thur) from the Box Office on 685861.

■ Craig’s Progress
  A new opera from Martin Butler at the Queen Elizabeth Hall, Royal Festival Hall. Wed 29 June. Tickets £14, £12, £10 and £8 (£2 concessions). A coach to the event is being organised from the University. Please contact Margot, Music Library, Arts B270 or contact ext. 2171.

Miscellaneous

■ Poppy Appeal
  Poppy appeal organiser wanted. Contact 0323 892487.

Bulletin

This is the final Bulletin of the Summer Term and we would like to thank all those who have contributed during the last year. The Bulletin will next appear on 30 September and will cover the first week of the Autumn Term 1994. Please send all contributions to the Information Office, Sussex House, ext. 8209 or email Bulletin@sussex.ac.uk.

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