

## ECRR Member Organisations

University of Edinburgh	www.ed.ac.uk
College of Science & Engineering	
College of Medicine & Veterinary Medicine	
College of Humanities & Social Science	
Scottish Agricultural College	www.sac.ac.uk
Research & Development	
Education & Training	
Heriot Watt University, School of Life Sciences	www.sls.hw.ac.uk
Napier University, School of Life Sciences	www.napier.ac.uk/fhls/lifesciences
University of Stirling, Institute of Aquaculture	www.aquaculture.stir.ac.uk
UHI Millennium Institute	www.uhi.ac.uk
University Marine Biological Station Millport	www.gla.ac.uk/centres/marinestation
Moredun Research Institute	www.mri.sari.ac.uk
Forest Research, Northern Research Station	www.forestry.gov.uk
Roslin Institute	www.roslin.ac.uk
Biomathematics and Statistics Scotland	www.bioss.sari.ac.uk
British Geological Survey	www.bgs.ac.uk
Centre for Ecology & Hydrology Edinburgh	www.ceh.ac.uk
DEFRA Lasswade Veterinary Laboratory	www.defra.gov.uk/vla
MRC Human Reproductive Sciences Unit	www.hrsu.mrc.ac.uk
National Museums of Scotland	www.nms.ac.uk
Royal Botanic Garden Edinburgh	www.rbge.org.uk
Royal Society for the Protection of Birds - Scotland	www.rspb.org.uk
Royal Zoological Society of Scotland	www.edinburghzoo.org.uk
Scottish Agricultural Science Agency	www.sasa.gov.uk
Scottish Crop Research Institute	www.scri.sari.ac.uk
Scottish Natural Heritage	www.snh.org.uk
Scotland & N. Ireland Forum for Environmental Research	www.sniffer.org.uk
Edinburgh Centre for Tropical Forests	www.nmw.ac.uk/ectf
Scottish Centre for Animal Welfare Sciences	

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### FUTURE ISSUES

Contributions to the Bush Telegraph are welcomed. All contributions, comments and suggestions can be emailed to Mike Steele at m.steele@ed.sac.ac.uk.

### DISTRIBUTION

For queries about Bush Telegraph distribution please contact Mike Talbot at m.talbot@bioss.ac.uk.

### ON THE WEB

Back issues can be viewed at <http://www.ecrr.org.uk>

### COPY DEADLINE

Deadline for copy in the next issue is 26 November 2004

# Bush Telegraph

The House Magazine of the Edinburgh Centre for Rural Research

## (D)EVOLVING SCIENCE STRATEGY

**Dr Chris Browitt**  
*ECRR Scientific Director*

In his address to members at the ECRR summer reception, Prof. Wilson Sibbett, Chairman of the Scottish Science Advisory Committee, highlighted the need to develop Scottish science from our strengths rather than on every front. He will be setting up focus groups later this year to progress policy recommendations along these lines, reporting to Ministers in 2006.

Existing advice that greater connectivity is required across the spectrum of disciplines will be a continuing theme of his Committee. In that respect, ECRR has already presented its credentials during its interactions with SSAC. Further opportunities exist through SSAC's offer to host future Committee meetings in our institutions. The School of GeoScience of Edinburgh University will welcome Wilson Sibbett's team later in 2004.

In a related exercise the Scottish Executive Environment & Rural Affairs Department has been setting out plans for its funding of agricultural, biological and related research for the period 2005-2010. The ECRR contribution to the consultation process can be read elsewhere in this issue of the Bush Telegraph.

In early June, the delayed visit of Ross Finnie to an ECRR Directors' lunch took place at the Scottish Agricultural Science Agency, hosted appropriately by Bob Hay at his last ECRR function before taking early retirement. We wish Bob success in his new endeavours and thank him for his most considerable support of ECRR over many years. The Minister, speaking to the theme "Rural Development- Challenges and Opportunities", drew on the Scottish Parliamentary Rural Development Committee's view of European farm policy reform published the following day.

He noted that CAP reform had allowed Scotland to take rural policy decisions "that best suit our circumstances and our objectives". They included full decoupling of subsidies from production, a national envelope for beef, and the intention to move to 10% modulation - funds switched from farming to general rural development - by 2007. This would release an additional £40 million into the rural programme through individual Land Management Contracts to farmers.

The 2005 ECRR lecture, co-sponsored by the Royal Society of Edinburgh and the Institute of Biology, is now confirmed for 25



*Sarah Stephens describing some of the Scottish Crop Research Institute's work during a visit to Invergowrie by ECRR directors*

February at the RSE, where we will welcome Professor Ian Wilmut of the Roslin Institute to deliver the first ECRR Peter Wilson lecture.

Another diary date for 2005 is 11 May, when ECRR, with the Aberdeen Research Consortium and the Edinburgh Earth Observatory, will host its biennial Forum on the subject of Earth Observation by Remote Sensing (satellite and airborne). In preparation for this event, ECRR Directors have been canvassed to assess their degree of involvement in EO techniques, and to establish a technical contact point. It is anticipated that exposure to recent advances in EO, together with those on the immediate horizon, will open up new opportunities for ECRR members and the wider Scottish community. As for our Landscape Forum last year, the venue will be SNH's Battleby Centre. We are most grateful to SNH for this contribution.

With over 90% of members responding, there is now a clear mandate for the ECRR name change from "Centre" to "Consortium" (Edinburgh Consortium for Rural Research). Ratification will be sought at the November Board meeting.

Finally, our link with colleagues in the West of Scotland have been strengthened recently with the brokering, by John Oldham, of an agreement with the Glasgow Vet School to send observers to ECRR functions and meetings.

Members' Reports

# British Geological Survey



Dr David C Booth  
 Senior Seismologist  
 British Geological Survey  
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## ESKDALEMUIR OBSERVATORY

British Geological Survey (BGS) and Met Office staff joined with retired colleagues in celebrating Eskdalemuir Observatory's Centenary in July, a century to the day after the first sod was cut on bare moorland in the Scottish Borders to commence construction. The NERC-owned observatory makes geomagnetic, seismological, meteorological and atmospheric electrical observations, mainly for monitoring changes in the natural magnetic field of the Earth, earthquake detection, and weather forecasting.

The observatory originated directly as a result of the dramatic improvement in public transport around London at the turn of the last century. The extending network of electric tramways around London at that time was affecting the magnetic measurements at Kew Observatory to such an extent that its operation was no longer viable. Compensation was obtained from the tramway company and a search began for a site suitable for a replacement that would have to be at least 10 miles from potential magnetic disturbances. It is said that this was done by moving a coin of suitable size (a sixpence) around the map of the railway network of that time until a clear space was found, remote both from railways and the possibility of future cultural development. The first reasonably accessible such space was found at Eskdalemuir!

Following this site selection process, in May 1903 a visit was made to Eskdalemuir by the Superintendent and Chief assistant of the National Physical Laboratory to inspect the site and make the first magnetic measurements. As is usual in Eskdalemuir, the weather was recorded as "wet and stormy and somewhat unfavourable to field work".

Fortunately geomagnetic field staff were (and still are!) a hardy breed, and on 19 July 1904 a small party watched the ceremony to start the building of the new purpose-built geophysical observatory. All building materials were obtained locally. Control of the site over the last 100 years has passed between three government organisations, the National Physical Laboratory (1908-1910), the Meteorological Office (1910-1967), and the Natural Environment Research Council (1967 - present). Within NERC, the BGS operates the site, and the facilities are also made available to the Met Office.

Accurate monitoring of variations in the Earth's magnetic field is still important for navigation - not only as a reliable fallback for satellite GPS, but also for applications such as directional drilling in the oil industry. Long term and short term variations in the Earth's magnetic fields are both of interest - the change in declination (gradual movement of the direction of Earth's north magnetic pole) shows a steady movement of 13 degrees since 1910, while during the last great magnetic storm in October 2003, the declination at Eskdalemuir fluctuated by as much as five degrees in only six minutes. Large magnetic storms can disrupt navigation equipment and electricity transmission systems. Geomagnetic field studies allow prediction of these effects and compensating actions to be taken.

The trams and trains at Kew also affected the seismic recording there, and a variety of seismometers were installed at Eskdalemuir Observatory in the years from 1908 to 1925. No recordings were made from 1925 until 1964, when a new seismic vault was constructed. The first instruments, installed in the new vault in 1964, formed part of the World-Wide Standard Station Network. This world-wide network was originally set up to provide data for the detection and assessment of distant underground nuclear tests, and it also provided much valuable information on Earth structure and earthquake mechanisms to advance the new theories of plate tectonics.

These instruments have been superseded by modern broadband instrumentation supplied by the IRIS agency in California. Eskdalemuir is also the base station for a local network of BGS seismometers, part of the UK-wide BGS network which monitors UK seismicity. Local earthquake activity has included the magnitude 4.7 L earthquake on Boxing Day 1979 and a swarm of tremors in the Dumfries area in 2001. The network also detected the air crash at Lockerbie in 1988 and the observed time of impact was presented as evidence at subsequent hearings.

Meteorology at Eskdalemuir has always been at the leading edge of the technology of the time, and Eskdalemuir observations are available in real time on the Met office web site together with a live webcam view of the sky (<http://www.metoffice.com>). Eminent meteorologists who have worked at Eskdalemuir include L F Richardson, and John Stagg (who advised Eisenhower on the D-Day weather). Recently Eskdalemuir has become the base for the Real Time Monitoring Centre for the Met Office network of automatic weather stations. Without this contribution, the computer models which produce weather forecasts using the principles developed by Richardson would not run as accurately as they do. Eskdalemuir's (unfounded) reputation as the coldest and wettest place in the UK has made it an often-used test site for instrumentation. Both meteorologists and geophysicists have worked on the principle that "if it works at Eskdalemuir, it will work anywhere!".

Meetings / Notices / Events

# People & Events

## ECRR DIARY

### 2004

Nov 3	Main Board meeting & AGM	SAC King's Buildings	15.00
	Winter reception	SAC King's Buildings	17.00
Dec 6	Directors' lunch	Roslin Institute	12.45
	Executive Committee		

### 2005

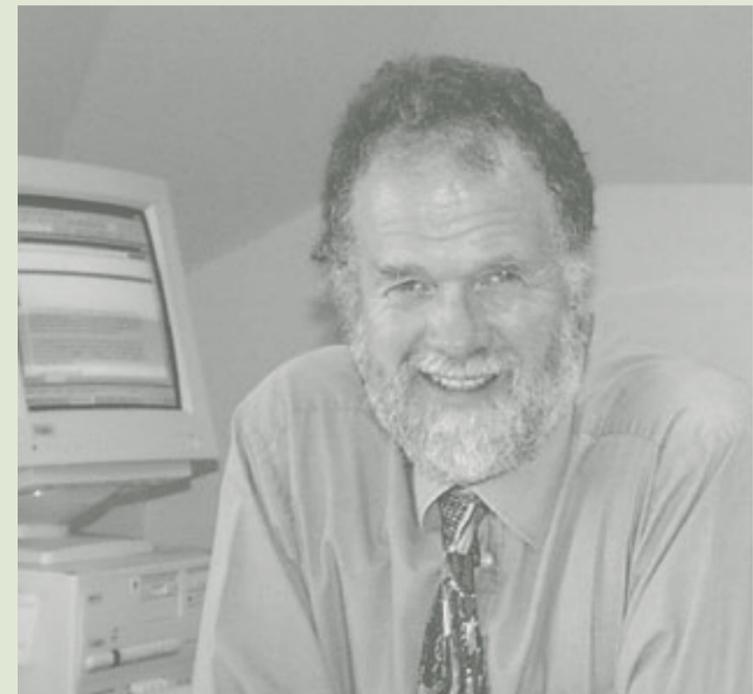
Feb 25	Annual Lecture	Royal Society of Edinburgh	
		Professor Ian Wilmut	17.30
Mar 7	Directors' lunch	RSPB Scotland	
Apr 4	Director's lunch	Royal Botanic Gardens Edinburgh	12.30
	Main Board meeting		
May 11	Forum:		
	Earth observation	SNH Battleby Centre, near Perth	
Jun 1	Summer Reception	Edinburgh	

Dr Harry Griffin has been appointed as Director of the Roslin Institute, to succeed Professor John Clark who died in August.

Harry trained as a biochemist, and his research career over the past twenty-five years has focused on metabolic and genetic determinants of fat deposition and other economically important traits in chickens.

He was appointed Assistant Director (Science) at Roslin Institute in 1995 where his duties included responsibility for the Institute's public communication on issues such as the cloning of Dolly, and the potential for using transgenic animals to develop novel therapeutics. Harry will lead the Institute through the next BBSRC Institute Assessment exercise, which commences in 2005.

Harry is a member of the ECRR Main Board and of the ECRR Executive Committee.



Harry Griffin

## SEERAD Strategy for Agricultural, Biological and Related Research 2005-2010

Dr Chris Browitt  
ECRR Scientific Director

### ECRR RESPONSE TO CONSULTATION PAPER – September 2004

Representing 26 member organisations with significant research interests in the areas of research covered by this document, ECRR welcomes the opportunity to comment on SEERAD's draft strategic plans. Many of our constituent organisations will offer their own responses to the document so we restrict our comments here to a number of high level issues and hope that these will be helpful to SEERAD and its Minister in the formulation of the final strategy document, and in its implementation.

- ECRR strongly supports the emphasis placed on institutional interconnectivity which is proposed, and notes the synergy with recommendations emerging from the Scottish Science Advisory Committee's work.
- We welcome, especially, the opportunities that the Strategy offers to strengthen cohesion across the spectrum of basic, strategic and applied research to deliver useful outcomes to issues of importance to Scotland and beyond. Strengthening links amongst SABRIs, SAC, RBGE and the Universities is of particular importance, and ECRR endorses this strategy. ECRR itself is an Edinburgh University-led consortium, with Scotland-wide interests, embracing not only these institutions but also other research institutes and departments of other Universities (see below).
- Research concerned with the rural economy is of increasing importance owing to both the wide-ranging opportunities available and the threats which are being recognized (potential for pollution, climate change and energy impacts, human health and safety issues etc.). The commitment to a continuing focus on research issues in this realm is therefore appropriate and welcome.
- The themes and programmes approach in the Strategy make sense but there is also a need to emphasise maintenance of the health of the structures and organs that will deliver results through this mechanism. In particular, there must be the means to sustain capability and expertise through harder times as well as through times of plenty. These are fundamental to research excellence which can only be achieved through a strategic, long-term, commitment; research can be easily turned off but not easily restarted.
- The provision and retention of specialised scientific facilities and infrastructure in Scotland is essential for the achievement of SEERAD's long term objectives. The strategy should indicate its intentions on this aspect.
- Internationally-acclaimed science, which we now have in Scotland through SEERAD-funded work and other routes, must be a continuing requirement. It must not be forgotten that the success of past research in SEERAD's sponsored bodies has led not only to academic recognition on the international stage, but has also acted as a springboard to attract into Scotland substantial amounts of research funding from elsewhere in the UK and internationally, that have added to the value of the Scottish investment and to the

Scottish economy. The future strategic development of research to meet SEERAD's interests should also bear in mind this potential for added value.

- A component element of internationally-focused science (with external linkages) is necessary to strengthen Scotland's science base in this field, to attract funds, develop commercial opportunities, project our excellence, and to maintain and enhance the reputation of Scotland as a place where world-class science is conducted. This approach attracts and retains the best. We recommend a clear affirmation of the value of such international collaboration.

ECRR is an expanding consortium of scientific organizations (18 Institutes/Centres and 5 Universities) active in basic, strategic and applied research relating to land, freshwater, coastal and marine resources and their use. This includes farming, forestry, aquaculture and recreational pursuits, all as part of the fabric of the diverse natural environment that gives Britain its distinct character.

ECRR's member organizations have a network of bases that span the whole of Scotland from the Shetland Isles to the Mull of Galloway and from Buchan to the western fringes of the Outer Hebrides. Beyond Scotland, ECRR members lead, or are closely involved in, science-based work in other parts of the UK, in the EU and in many other regions of the developed and developing world.

We would be happy for SEERAD to use this network of relationships to help further evolve their strategic developments whenever it may be appropriate.

## Biomathematics & Statistics Scotland



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### APPOINTMENT OF DIRECTOR

We have permission to fill the vacant post of Director of BioSS. We are seeking someone with leadership skills and an international standing in applied statistics, bioinformatics or mathematical modelling, and will be advertising widely.

### SEERAD REVIEW

BioSS was highly praised by its 2003 Visiting Group for "the range, scientific quality and productivity of the work". However, within the framework of the ROAE (Research Organisations Assessment Exercise), the Visiting Group was not asked to seek evidence from the sponsored bodies about the level and range of quantitative expertise required to support current and future SEERAD funded research.

Therefore, SEERAD is now setting up a review of the level and range of expertise in statistics, mathematical modelling and bioinformatics required by the SEERAD sponsored bodies including the Royal Botanical Gardens Edinburgh and the Scottish Agricultural Science Agency, in support of current and future research needs. The review panel will advise on how the needs for underpinning SEERAD sponsored research by statistical, mathematical modelling and bioinformatics specialists might best be met.

### CONGRATULATIONS

#### William Hunting Award

Iain McKendrick, together with Ken Urquhart, a local veterinary surgeon, won the William Hunting Award 2003 from the British Veterinary Association (BVA)

for "A survey of permanent wound tracts in the carcasses of culled wild red deer in Scotland", the best paper published by the BVA incorporating a contribution from a practicing veterinary surgeon.

#### RL Plus

The Home Grown Cereals Authority has highlighted RL Plus as its top R&D achievement in its 2003/04 annual report to levy-payers. RL Plus is a web-based system for accessing and exploring information from UK crop variety trials developed by Mike Talbot, Chris Theobald and Alec Mann. It provides sophisticated data mining techniques to cereal growers wishing to identify varieties appropriate to their circumstances. See: [www.hgca.com/varieties/rl-plus/index.html](http://www.hgca.com/varieties/rl-plus/index.html)

### NEW POSTS

BioSS has been successful in obtaining funding for six new postdoctoral positions:

ALARM (Assessing Large scale Risks using tested Methods) is a large, multi-organisation EU project to assess environmental risks associated with invasive species, climate change and pollution. Glenn Marion's post will develop and test mathematical and statistical methodology.

SAFEFOODS is another large EU project, coordinated by SCRI. Jim McNicol's post will contribute design and analysis of experiments to compare different methods of food production; multivariate analysis of metabolomic, proteomic and transcriptomic profiles to characterise and distinguish among production methods; and organisation of simple databases to allow experimental results to be used automatically in risk models.

A SEERAD-funded post in computational systems biology, directed by Dirk Husmeier, will use machine learning and bioinformatics approaches to investigate the complex and dynamic exchanges of signals influencing regulatory

networks and biochemical pathways in bacterial pathogen-host interactions, in collaboration with MRI and SCRI. The focus will be on two host-pathogen systems: potato - *Erwinia carotovora* subsp. *atroseptica* (Eca) and cattle respiratory tract - *Pasteurella multocida* (Pm).

A second SEERAD-funded post in computational systems biology, directed by Iain McKendrick in collaboration with MRI and SAC, will integrate epidemiological data collection, the analysis of animal experiments and mathematical modelling to provide information about the optimal choice of control strategy for ovine pulmonary adenocarcinoma on Scottish sheep farms.

An EPSRC-funded post will study global properties of ecological models, with particular emphasis on understanding adaptation at the edge of the species' range. Glenn Marion's post is funded under the NANIA (Novel Approaches to Networks of INteracting Autonomes) network, led by the School of Physics, Edinburgh University, and in collaboration with ICAPB. The aim is to study how robustness, stability and fitness-for-purpose emerge from the evolution of complex interacting networks that arise in disciplines as diverse as economics, ecology and geophysics.

Finally Frank Wright has a post, funded by the BBSRC Bioinformatics and E-Science initiative, to add additional statistical molecular evolution methods to BioSS's Java-based TOPALi program for analysis of DNA multiple alignments. This will allow TOPALi to interact with two other programs, JalView and AstexViewer, which analyse protein sequences and structures. TOPALi will also be extended to make use of GRID technology to allow a range of statistical analyses to be carried out, including phylogenetic analysis.

## Napier University

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### GOOD NEWS

It is my pleasure to announce that Portcullis Developments Ltd (PDL) has received an award from Scottish Environment Protection Agency (SEPA) for the works carried out at Skares Bing and Brickworks, East Ayrshire. PDL won the section entitled "Brownfield Site Projects" and beat off stiff competition from other organisations such as Aggregate Industries to lift 1st prize in the Habitat Enhancement Initiative Annual Awards 2003, organised by SEPA.

PDL were presented with the award by Kevin Dunion, the Scottish Information Commissioner, who commented that the site had been chosen due to its "innovative approach to restoring the site".

The awards, held at SNH's offices at Battleby, near Perth, were chaired by Lady Isobel Glasgow and the ceremony commenced with an introduction from Sir Ken Collins, chairman of SEPA.

The judging panel for the awards consisted of representatives from SNH, SWT, WWF, SEPA, FWAG, Friends of the Earth and RSPB.

As a result of the award, the site now becomes a demonstration site, which exemplifies best management practices and the enhancement, protection, restoration and improvement of existing wildlife habitats.

Both Joe Fitzgerald and Tommy Hogg, the Company's Directors, were delighted to receive the award on behalf of everyone's efforts within the company, and look forward to submitting other sites for awards next year.

The work undertaken at the site was part of a DTI funded TCS Programme between

Napier University and Portcullis. Prof Nick Christofi the academic involved from Napier worked closely with the TCS Associate Scott Fitzgerald and key company staff to provide technical support and expertise to help the company achieve its objectives. In addition to receiving the award for Skares Bing and Brickworks, PDL's other recently completed site at Drumbow, North Lanarkshire was also short listed in this section.



Development of a Wetland Habitat on a Remediated Site



### RETIRAL

Professor Paul Read retired at the end of April after 32 years at Napier. Paul has been a major force in establishing the School of Life Sciences' expertise in water resource management. He founded the department's first MSc, Biology of Water Resource Management, which is still going strong. There was a presentation on Friday 18 June at the Royal Ettrick Hotel, Edinburgh.

## Veterinary Education for the 21st Century

Mike Talbot

In early October ECRR Directors were guests of Professor Elaine Watson and colleagues at the Royal (Dick) School of Veterinary Studies.

During the visit we learned of plans to move the Vet School from its present Central Edinburgh site to Easter Bush, alongside the main animal hospitals. This move will have many advantages:

- Facilitating expansion of the undergraduate and postgraduate courses;
- Earlier introduction of clinical case teaching into course work
- Creating stronger research links with Institutes in the vicinity of Easter Bush.

Along with plans for structural changes Elaine spoke about developments in the

teaching programme. A new outcomes-based curriculum is being introduced to encourage greater reliance on student-centred and reflective learning. Around a core science training there is being created 'bolt-on' courses to prepare graduates for the diversity of roles that veterinarians must serve in the 21st century.

In tours of the Small Animal Hospital, led by Dr Brendan Corcoran, and of the Large Animal Hospital led by Dr Tod Booth, we saw something of the dedication of clinical staff in the care of a wide variety of species from the animal kingdom.

We came away from our visit with a sense of an organization with a clear vision of the future for veterinary education and practice, and with an enthusiastic staff who will ensure the vision becomes a reality.



Dr Brendan Corcoran, Director of the Small Animal Hospital, describing the work being done in one of the operating theatres.

## Edinburgh Technopole & Pentland Science Park

Two Scottish science parks were joined together in June 2004 when Rhona Brankin MSP officially opened the new link road connecting Edinburgh Technopole with the neighbouring Pentlands Science Park.



The link road has been created as part of the £5 million grant allocated to Edinburgh Technopole under the European Regional Development Fund and is visible evidence of the commitment to strengthen existing links within the internationally recognised 'Science Triangle' of nearby research institutions - which also includes the Roslin BioCentre.

Rhona Brankin welcomed some 40 guests to the opening ceremony, including Sir James Armour, Chairman of the Moredun Foundation based at the Pentlands Science Park and Professor Grahame Bulfield, Vice Principal of the University of Edinburgh.

Welcoming the new road, she said: "This is a very positive development for the Edinburgh Science Triangle. The link road will act as both a physical and a symbolic link between the Edinburgh Technopole and the Pentlands Science Park. It will foster co-operation and help create an environment in which companies can share resources and ideas."

# Mercy Corps Scotland

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Edinburgh-based Mercy Corps Scotland is a not-for-profit organisation that exists to alleviate suffering, poverty, and oppression by helping people build secure, productive and just communities. It is part of Mercy Corps, an international family of humanitarian agencies with programmes currently reaching over 5 million people in more than 30 countries.

Mercy Corps develops sustainable communities that meet the needs of children and families. It also provides emergency relief services that assist people afflicted by conflict or disaster. Mercy Corps works to promote civil society initiatives in all our programmes to encourage citizen participation, accountability, nonviolent conflict management and the rule of law.

Mercy Corps' food programmes: whether responding to large-scale emergencies or endemic poverty, concentrate on those who are most vulnerable - children, the elderly, pregnant women and the homeless. Our food for work programmes involve participants directly in rebuilding and development efforts - from bridge building to garden planting - even as they receive supplemental nutrition.

Mercy Corps works to reduce community and individual dependence on outside assistance by strengthening food resources. By helping to ensure that people have both physical and economic access to a sufficient variety of foods to meet their dietary needs, Mercy Corps lays the groundwork for more just and equitable societies.

**Agricultural Development and Rural Livelihoods:** In the area of agricultural development and rural livelihoods, Mercy Corps strives to develop and disseminate appropriate agriculture production technology, engage local farmers, workers and youth, and develop

agricultural production and marketing that can redirect rural economies while fostering a peaceful community life.

## SAMPLE PROGRAMMES IN ACTION

Since 1993, the Afghanistan programme has focused on food security issues. With the World Food Program and Food and Agriculture Organization, Mercy Corps provides technical assistance to farmers growing wheat, vegetables, apricots and almonds for their families. Food for work labour has repaired market access roads, bridges, irrigation canals and hospitals damaged in war.

Funded by the U.S. Department of Agriculture, the Mongolia Rural Agribusiness Support Programme supports the diversification and expansion of rural businesses in 11 aimags that are critical to Mongolia's agriculture sector. The programme provides training and technical assistance, improves the accessibility of financial resources, develops and institutionalises monitoring systems for dairy food safety and animal nutrition, and provides technical and material support to veterinarians.

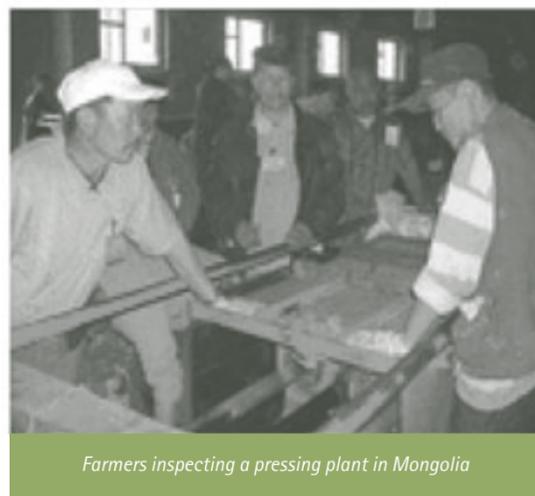
Mercy Corps' overarching objective in Lebanon is to create a vibrant and healthy rural environment with economic opportunities and an equitable community life for all. Bulk food sale proceeds help directly fund agricultural development, land rehabilitation and road improvements, and repairs to water storage and irrigation systems. Mercy Corps' Rural Community Development Cluster groups programmes geographically and is an excellent avenue through which different ethnic and religious groups in Lebanon can come together to work together.

The Apple Tree Project, started in 2000, supports the development of apple orchards within the southwest region of North Korea and has led to the successful planting of over 70,000 trees. An initiative to provide assistance in rainbow trout farming has also been developed with a group of fish hatchery managers.

Mercy Corps uses proceeds from the sale of donated food to improve the educational environment for 54,000 students in 150 rural primary schools in Eritrea. Students receive locally produced high-energy biscuits every school day, and Parent Teacher Associations are strengthened through training and small grants for school improvement projects.

**Working with Mercy Corps:** We are constantly seeking team players with a commitment to quality ideas, continuous improvement and lasting impact. In return Mercy Corps provides competitive compensation, solid benefits and a culture that promotes problem-solving creativity, high performance and individual contribution.

For a complete list of currently open positions, and to subscribe to Mercy Corps' jobs please visit [www.mercycorps.org](http://www.mercycorps.org). Click on "Jobs."



Farmers inspecting a pressing plant in Mongolia

# Scottish Agricultural College



Iain Riddell  
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 Scottish Agricultural College  
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## ANIMAL BEHAVIOUR & CATTLE HANDLING

Following a review of cattle handling facilities available world-wide, SAC is supporting the uptake of an approach to cattle handling facilities, pioneered by Dr Temple Grandin in the USA, but rarely seen in the UK, based on observations of the natural behaviour of animals.

According to SAC' beef cattle expert Iain Riddell, "We now have less labour on farms and need to redesign our facilities so that one worker can quickly and safely handle large numbers of cattle.

Designs that encourage calm movement through the animal's natural behaviour are well proven in other countries. Our

challenge is to use this knowledge to modify or redesign our handling pens and loading facilities. Well designed handling systems should mean less stress and risk of injury for both workers and animals, as well as benefiting growth rates and meat eating quality."

SAC researcher, Simon Turner says, "The principles which promote calm cattle movement are the same irrespective of the scale or the purpose for which the facilities are required. Cattle are less hesitant when moving through curved races, lanes and forcing pens and when moving over a non-slip floor surface.

A gentle, low ramp is a considerable improvement over having no ramp at all when loading and unloading cattle. Solid sides to races, lanes and forcing pens reduce distraction from nearby animals and handlers, and equipment designed to operate quietly will minimise disturbing noises.

Exits should be obvious and divisions should be laid out to guide animals

towards them. A catwalk on the outer radius of a curved race and forcing pen will encourage the handler to stand in the correct position with respect to the animals and will prevent them from having to stand directly behind the cattle.

## FURTHER INFORMATION

SAC has two technical notes on cattle handling systems in production

- Recommendations for the design of new safe and efficient cattle handling systems
- Modifying existing cattle handling systems to improve human safety.



Illustrating a well-designed cattle handling facility

## Scotland & Northern Ireland Forum for Environmental Research



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SNIFFER is a company that identifies and manages environmental research on behalf of members and stakeholders. Our members are the Scottish Environment Protection Agency (SEPA), Environment and Heritage Service (EHS), Scottish Executive, Scottish Natural Heritage (SNH) and the Forestry Commission. In the ten years since its incorporation as a company in 1994, SNIFFER has grown to a team of ten, based at new offices on Greenside Place in central Edinburgh. SNIFFER's services, whilst maintaining research management and commissioning at its heart, has evolved to include knowledge management and sharing of ideas related to environmental issues in Scotland and Northern Ireland.

In the past year we have completed a number of exciting projects. SNIFFER had a leading role in developing the Air Pollution Information System (APIS). APIS is a free web-based database that provides information on air pollutants and their impacts on habitats and species across the UK. It was initially developed with the Scottish Environment Protection Agency, Scottish Natural Heritage and Environment and Heritage Service, and has since grown to include a number of partner organisations across the UK. For further information, visit [www.apis.ac.uk](http://www.apis.ac.uk).

In May 2004, SNIFFER held a workshop that brought together policy makers, researchers and regulators to explore what the Precautionary Principle means in

practice. This has resulted in the formation of a partnership to help deliver two key outcomes: the development of an overview document on the precautionary principle plus generic operational guidance that will help organisations to deliver the objectives of the principle.

In 2003 the Land Quality Research Database (LQReD) went online. The database is aimed at connecting the policy and research communities and disseminating research



The new location for SNIFFER in Greenside Place, Edinburgh

findings. It is possible to search the database as well as add new projects, which makes LQReD a useful tool for identifying current research as well as research needs. To view LQReD visit the land quality theme page on the SNIFFER website.

SNIFFER helps its members to identify research needs through stakeholder workshops. The Urban Environment theme has developed a set of research 'clusters' on green space, pollution, environmental justice, biodiversity and economy and

environment. A symposium on the urban environment will take place on 30 November and 1 December to discuss research identified within the clusters and to outline the research requirements for the EC Thematic Strategy on the Urban Environment. For more information, contact [tom@sniffer.org.uk](mailto:tom@sniffer.org.uk).

In all our activities we seek to work closely with members and stakeholders to gain consensus on research needs where SNIFFER's involvement can most add value, and ensure that outputs of our activities directly influence the business practices of those for whom we work.

In the last few months SNIFFER has been awarded a contract by the Scottish Executive to provide a research management service in flood risk management, and is working closely with the Executive in developing the climate change research agenda within Scotland. A key area of our work is the provision of research management to support the implementation of the WFD Framework Directive (WFD), and we provide a central role on behalf of the WFD UK Technical

Advisory Group. We are commissioning WFD-relevant research to the value of £3 Million.

Information on all of our activities is on our web site: [www.sniffer.org.uk](http://www.sniffer.org.uk). SNIFFER is keen to adapt to new opportunities and drivers and is currently consulting with stakeholders about our future strategy. For more information on this please contact [ruth@sniffer.org.uk](mailto:ruth@sniffer.org.uk). You can also view SNIFFER's Autumn 2004 newsletter as a pdf file on our website.

## Moredun Research Institute



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Collaboration is vital for the future of agricultural research; but only if it maintains existing resources - that was the key message from Professor Sir James Armour as he made his final address as Moredun Chairman at the AGM of the Moredun Foundation on Thursday 9 September. Professor Armour, former Dean of Glasgow University Vet School and Vice-principal of Glasgow University has been Chairman of the Moredun Foundation for four years.

"As most of you know the Moredun Group comprises the Moredun Foundation (with around 2500 members), MRI, Moredun Scientific Ltd, Pentlands Science Park and VETAID. MRI is by far the largest and also the key member of the Group. It receives 55% of its funding from SEERAD and it is essential that this level is maintained for its future stability and also the well being of the others in the Group with whom MRI closely interacts.

The recent external review of the quality of research, both basic and applied, (I prefer to say good science) undertaken at MRI rated most of that research as of international standing and the report also praised the contribution to knowledge transfer and end user relevance, so the financial support we receive is clearly well spent.

The overall financial position across the Group has steadily improved and the Foundation owns the estate, buildings and facilities valued at £21m. We are financially viable despite comments to the contrary.

There have been comments that we drag our feet in relation to collaboration. This is nonsense. Moredun actively collaborates with others involved in

animal bioscience in the UK and we have joint chairs at both Edinburgh and Glasgow Universities initiated by Moredun. I recognise the value of these collaborations and the need to further strengthen them and so ensure that Scotland's excellent global position in animal bioscience is maintained through co-operation covering principally Moredun, SAC, Roslin, the Neuropathogenesis Unit, the internationally rated Scottish Vet Schools and the widely acclaimed Institute of Aquaculture at Stirling.

I believe this is best achieved through a national network arrangement which co-ordinates the excellent existing resources in Scotland and, where appropriate, supports new build. Full incorporation within the university system as some would like would undoubtedly lead to a diminution of applied research and concentration of resources on more basic research on which the rating of university research is predominantly judged. Such

a change in direction would have the effect of reducing, or at best limiting the excellent interaction Moredun currently has with the farm livestock industry in the UK. I hope this does not happen.

The good news is that animal health issues will play an important role in cross-compliance as part of the recent mid-term review of CAP.

Whatever the future holds I am sure that Moredun with its unique combination of basic and applied research and its commitment to knowledge transfer is ideally placed to make a positive contribution to the government's animal health and welfare strategy whether at local, national or international level."



Mr John Ross (left), newly elected Chairman of the Moredun Foundation, presents his predecessor Professor Sir James Armour, with a sculpture of a sheep, to mark Sir James's four years as Chairman of the Foundation.