Canada pioneers national screening for Huntington's disease

Sylvia Dayton, Toronto

SCIENTISTS in Canada have begun the world's first nationwide screening programme to identify people at risk of developing Huntington's disease. The programme, which began earlier this month, was formally announced in Toronto at the 16th International Congress of Genetics by the project leader, Michael Hayden of the University of British Columbia.

Huntington's disease is an inherited, ultimately fatal, neurological disorder that affects approximately one in 10 000 people in the Western world. Either parent can pass the disease to a child, who has a 50-50 chance of inheriting the defective gene that is responsible for the disease.

Because there is no known cure and because victims of the disease generally do not develop symptoms until middle age, predicting the presence of the Huntington's gene before the onset of symptoms is critical for many people at risk, says Hayden.

If parents know that they carry the gene, they can choose not to have children or to abort affected fetuses. The new programme, based on a pilot scheme that began in 1986, will be open on a voluntary basis to any Canadian who is 18 years of age or older, and who has a parent who either has Huntington's disease or who died from it. All participants must agree to extensive pre- and post-screening counselling to help them understand their test results and to cope emotionally with the findings.

Blood from participants and their close relatives will be collected at 14 genetics clinics across the country. Analyses will be conducted in Vancouver using three established gene markers known as D4S10, D4S62 and D4S95.

Depending upon the amount of useful genetic information available from family members, Hayden predicts the tests could be "99-per-cent accurate" in establishing an individual's risk of developing the disease.

Theoretically, if Huntington's disease is caused by a single genetic mutation, and if the mutated gene can be isolated and cloned, detailed family histories and blood samples from relatives will not be required. It should be possible to detect the presence or absence of the defective gene in samples taken solely from the individual at risk.

According to James Gusella, a neurogeneticist at Harvard who led the team that described the first gene marker in 1983, only a few centres in the US, Britain and Europe offer screening to the public. None matches the Canadian programme. □

Europe unites its scholars of science

EUROPE now has its own Academy of Sciences. Sir Arnold Burgen, the master of Darwin College, Cambridge, is among 55 scholars from 16 European nations, who decided this month to elect the academy's first 1000 members. They are to meet in June next year.

Members will include representatives of the humanities and the social sciences as well as the natural sciences. Burgen, a founder member of the academy, foresees a need for an interdisciplinary body representing scientists throughout Europe.

Like the US National Academy of Sciences, the European academy may publish a journal. It will undertake studies and make recommendations on topics of concern to Europeans, says Burgen.

Unlike the American academy, its European counterpart will be politically neutral. Burgen expects its membership to reach around 5000. The academy could assess technological options for the European Community, lobby national governments to secure more money for basic science, and set standards and recommendations in ethics.

Burgen says that the academy will need a large endowment to meet annual running costs estimated at £250 000. Already, Britain's Advisory Board for the Research Councils, the Rothschilds and the Bank of Sweden have pledged £100 000 in aid. □

Computer hackers cleared of lawbreaking

HACKERS in Britain can breathe a sigh of relief. The Law Commission of England and Wales has decided not to recommend that hacking, breaking into a computer system without authorisation, becomes an offence. In a report on "computer misuse", published yesterday, the commission has decided not to make a ruling on hackers and has appealed instead for comment from the public, before it makes a final recommendation.

Computer misuse covers a broad spectrum of activities including fraud, and the laying of "logic bombs" and computer "viruses" in computer systems.

In July of this year a potential computer fraud involving the transfer of £32 million from a Swiss bank was thwarted by police. Computer "viruses", which are specially-written programs designed to replicate themselves and cause damage to software, have become more widespread.

The report concludes that most forms of computer misuse are embraced by existing law, and so recommends no changes. This is despite the case of Gold and Schifreen, two men who hacked into British Telecom's Prestel computers.

The pair were convicted of forgery, but their convictions were put aside when they appealed to the House of Lords, which decided that hacking could not amount to the crime of forgery.

Immediately after this decision, in May, the British Computer Society issued strong recommendations that hacking should become an offence in Britain.

Hacking, the commission says, is the only category that is not covered by existing law, despite a recent conclusion from the Audit Commission which ranks hacking as "the single largest computer related crime". The Law Commission has pulled together the case for and against its criminalisation.

Arguments in favour include the fact that unauthorised access to certain information held on a computer, such as personal data covered by the Data Protection Act, could be "peculiarly damaging". It also notes that many other countries, including the US, Sweden and France have already made hacking a crime. □

Kite-flying on the increase in Wales

RED KITES are on the increase again in Britain, thanks to the country's first ever programme to breed rare birds of prey artificially. This year, 38 red kites were reared in central Wales, the second-best performance this century.

The programme, under way for two breeding seasons, is being organised jointly by scientists from the Nature Conservancy Council (NCC) and the Royal Society for the Protection of Birds (RSPB). They removed eggs from the most vulnerable nests of red kites soon after the birds had laid them, substituting dummies for the stolen eggs.

The scientists hatched the real eggs in incubators or beneath bantam hens. Roger Lovegrove, the RSPB's officer in Wales, commented: "The RSPB and the NCC regard this as an important milestone in the protection of this rare species."

Time-lapse cameras have been fitted to some nests to monitor the presence of adult birds and intruders. Also, the scientists have slipped "kite" eggs made from glass fibre into nests. The replicas contain sensors which relay data about egg temperatures, the movement of parent birds, and the frequency with which they turn their eggs during incubation. □

Eric Hosking

Bantams have helped kites (above) to recover