new Labour
new Scotland

Building science

Scottish
Labour

Science: Scotland's past, present and future

For centuries Scotland has led the world in scientific discoveries. Our enlightened attitude to science and innovation has ensured our place on the world map. Scottish knowledge and discoveries have produced incalculable benefits for the world – from the telephone, the television and penicillin to Dolly the Sheep.

Scottish Labour wants to build on this past and use our science base to compete in the global economy.

Science can seem remote to some – eccentrics in white coats are the stereotype but the reality is Scotland's future depends on the vital work taking place in research centres and university labs across the country.

Scotland attracts scientists from all over the world. In the future we want them to be welcomed to our country by more home grown Scottish scientists and believe the only way we can do this is through the investment in and promotion of science in our schools.

Scottish Labour will:

- establish a National Science Ambassadorial Programme allowing Scotland's scientists to be advocates and ambassadors of science.
- introduce specialist science teachers to work in primary school to catch youngsters while their minds are at their most inquisitive.
- create six regional Science Centres of Excellence, specialist upper schools for local comprehensives.
- significantly raise the cap on students numbers in Scottish higher education, and increase the number of young Scots studying science and technology.

We are proud of our scientists and of the world-leading research they are undertaking. Labour wants to enhance Scotland's reputation as one of the worlds leading science nation.

To build on the strong environment we have created in this country Scottish Labour will:

- provide the necessary funding to establish a Scottish Institute for Life Sciences, based in Dundee.
- champion the successes of Scottish breakthroughs and scientific achievement.
- provide national leadership to encourage greater collaboration between our universities, enterprise agencies and the private sector.
- invest in the 'pipeline support' necessary to take ideas from the lab to the market and invest in Scotland's three Intermediate Technology Institutes, supporting pre-competitive research in order to make it 'market ready'.

Scottish Labour are committed to working in partnership with Westminster. We will ask the Director-General of Science and Innovation to agree specific targets with each

Research Council to increase the amount of collaborative R&D they conduct in partnership with the Technology Strategy Board.

We believe in building Scotland, not breaking up Britain. We believe breaking Scotland away from the rest of the UK would damage Scotland's economy, hold back our universities and cut our scientists off from the wider British scientific community.

Building our Life sciences sector

There are now 30,000 people employed in Scotland's Life Science sector- one of the fastest growing sectors in Europe.

The life sciences sector in Scotland, both academic and industrial, is highly successful. Edinburgh is one of the 5 leading science centres in Britain along with Cambridge, Newcastle, London and Sheffield. And Dundee is now home to the largest bioscience cluster outside of the South East of England.

Two of the five biggest stem cell companies in the world have a presence in Scotland with *Geron Bio-Med* based at the Roslin BioCentre, and *Stem Cell Sciences* based in Edinburgh.

We haven't got here by accident. Scotland is world leader because we have, as a government and as a country, embraced the possibility of science and been outward looking and ambitious in our approach to new discoveries.

Key facts:

- The key early discoveries in stem cell research and nuclear transfer were made in Scotland by teams still active and growing in the field.
- In 2005, Scotland was the source of 20 per cent of Europe's Life Science Initial Public Offerings.
- Some of the most important globally important patents on the IP landscape were invented in Scotland, with the University of Edinburgh and Roslin being key players.
- Edinburgh has one of the highest densities of stem cell scientists in Europe and leads the European Union Euro stem Cell FP6 project.
- The efforts of our scientists have been transferred to manufacturing, with companies like Scottish Biomed (non-GMP), Roslin Cells and Angel Biotech operating in Scotland.
- Scotland has a continually growing cluster of stem cell companies including: Stem Cell Sciences, Cellartis, CXR Biosciences, Stem Cell Services, Angel Biotech, Roslin Cells, Geron Biomed.

We believe that government has a part to play in ensuring this vital industry flourishes. We have to ensure the regulatory environment is right, work with the industry to ensure public support and where necessary provide investment.

We have:

- Worked in partnership with the UK government to ensure Britain attracts world leading scientists and has light touch regulations to allow the industry to grow.
- Created the Scottish Centre for Regenerative Medicine at Little France, with £58 million of investment. This centre is second only to Kobe in Japan for stem cell activities and acts as a catalyst for further scientific investment, attracting commercial organisations to establish strong collaborations.
- Attracted the multi million pound, groundbreaking Translational Medicine Research Centre to Scotland.

Dundee - City of Discovery

Over the past 10 years Dundee has been transformed. The growing life science industry is playing a leading role in the regeneration of the city and Dundee University is attracting world renowned scientists to the city.

The central core laboratory of the Translational Medical Research Collaboration set up in Scotland with Wyeth Pharmaceuticals is in Dundee. And Dundee is playing an important role in the Scottish Universities Life Sciences Alliance.

Life Sciences at the University of Dundee has played a key role in making Dundee the hub of the biotechnology industry in Scotland. Several of Scotland's most significant biotechnology companies that are based in Dundee, such as Åxis-Shield, Cyclacel, CXR Biosciences and Upstate were set up to exploit technology developed by Life Scientists in Dundee.

Some key facts on Dundee:

- According to Thompson Scientific Philadelphia, the University of Dundee has been the most influential University in Europe in Life Sciences over the past five years, as judged by the number of times research papers published by Dundee based scientists were quoted by other scientists in their own publications. The University of Oxford and Cambridge ranked behind Dundee in this survey.
- Scientists at the University of Dundee published all of Scotland's seven most quoted research papers in the Life Sciences over the past ten years.
- In two successive polls of their readership conducted by The Scientist newspaper in 2004 and 2005, the University of Dundee was voted the most desirable place for a Life Scientist to work in Europe.

Building Dundee's future

There are three Life Sciences Research Institutes in the UK, which were set up and are funded by the Medical Research Council. All are situated in the south of England - one in Cambridge (the MRC Laboratory for Molecular Biology) and two in London (the MRC Clinical Sciences Centre and the National Institute for Medical Research).

Labour believes Scotland should have an equivalent centre - a Scottish Institute for Life Sciences (SCILS) to attract more world class, entrepreneurial scientists to Scotland. The Institute would build Scotland's proven track record in translating scientific discoveries into enterprise. A Scottish Institute for Life Sciences will deliver world class scientific research and expertise and generate the intellectual property on which the future success of Scotland's biotechnology industry ultimately depends.

Professor Sir **Philip Cohen,** Director of Research in the School of Life Sciences, is the most cited bioscientist in Europe and has championed Dundee as the natural location for a Scottish Institute for Life Sciences, in the University of Dundee.

We accept the compelling case he has made for a Scottish Institute for Life Sciences to be based in Dundee and if elected in May will ensure the necessary funding is available to establish this new institute.

Investing in tomorrow's scientists

Only by equipping future generations of Scots with the skills they need can Scotland find continuing success and compete in the global marketplace.

That is why Labour has given education the highest priority. We believe that education must come first – it is a national purpose. It is the foundation for future economic growth and the success of our society.

Since 1997 we have made massive investment in our education system. The results are showing – with increased numbers of teachers, more motivated teachers, smaller class sizes, improved pupil-teacher ratios and improving attainment.

Scottish Labour will put education at the heart of our election campaign and believe that through investment in education we can drive Scotland forward making us a smarter, healthier, more prosperous nation.

Scotland attracts scientists from all over the world. In the future we want them to be welcomed to our country by more home grown Scottish scientists and believe the only way we can do this is through the investment in and promotion of science in our schools.

Scottish Labour will:

- establish a National Science Ambassadorial Programme allowing Scotland Scientists to be advocates and ambassadors of science, inspiring a whole new generation to study advanced highers and degrees in science.

- introduce specialist teachers to work with the classroom teacher in primary school. We will ensure more primary pupils learn more about science before they go to secondary school, catching youngsters while their minds are at their most inquisitive.

- create six regional Science Centres of Excellence, specialist upper schools for local comprehensives. These new centres will stretch and inspire young scientists to an even higher level, with young people from surrounding areas who wish to pursue an advanced level of science entitled to attend.

- significantly raise the cap on students numbers in Scottish higher education, and increase in the number of young Scots studying science and technology.

In Scotland, we have the power, the resources and the imagination to create the best education system in the world. Labour has the ambition to make sure we achieve it.