



**ADDRESS BY PRESIDENT NELSON MANDELA TO THE
14TH INTERNATIONAL CONFERENCE ON CYCLOTRONS
AND THEIR APPLICATIONS**

10TH OF OCTOBER 1995

Distinguished Guests, Ladies and Gentlemen,

In an age in which the development of technology has become globalised, to participate fully in the international science system is of paramount importance to any country. South Africa is therefore privileged to host this conference. Events such as this one confirm South Africa's acceptance into the international community of scientists and engineers. It is therefore with great pride that we welcome all delegates, particularly our foreign guests. For one who is effectively a pedestrian on matters scientific, it is a great honour to have the opportunity to share a few ideas with you; and I hope you will lend me your ears!

I should say that, even from behind the prison walls, we could not but discern that the second half of the twentieth century was witnessing spectacular advances in the sciences, especially in high-energy physics. On many occasions on Robben Island, we strove to rise above our depths to debate the impact of these advances on humanity and civilisation. Not that this helped many of us, who emerged from prison with an image of computers as really huge machines that would fill this hall! Yet in the development of physics, there is a profound universal lesson that cannot escape even the most uninformed. The history of nuclear weapons has provided that harsh lesson, that there are no hard and fast safeguards against the most destructive uses of science and technology.

Equally, there are no guarantees that we will always succeed in harnessing the power of knowledge, to the best effect, to promote development. The applications of science in society, the impact of their power for good or evil, depends on decisions we all make: as scientists; as government; as citizens of our countries and of the world. It is therefore appropriate, as you confer on cyclotrons and their applications, that you will also seriously consider the conflicting demands on your craft. South Africa is a society in which such conflicting demands have played themselves out intensely, especially during the previous era. In fact, it would no be an exaggeration to say that the political environment conspired to give nuclear physics a bad name among the majority. This was so in respect of denial of access to such sciences; their orientation to benefit a few; and their application for the defence of a crime against humanity.

I will therefore use this opportunity to share with you some of the debates within our society and the steps government is taking to ensure that the scientific community becomes truly national in its demographics; that our technology is fully converted to peaceful use; and that we bridge the gap between our discourse here and the conditions of the ordinary person in the informal settlements. South African science, great and small, is therefore called upon to rise to the new challenges facing the nation. This applies to cyclotrons as it does to the question of sources of household and industrial energy.

Ladies and Gentlemen, the value of scientific research, basic and applied, for national development, is firmly recognised and supported by government. Hence let the word go out from here to our scientists, engineers and academics that the nation needs their collective creativity and ingenuity. Resist the temptation to emigrate to the developed countries; not only because we need your talents. But also because, in the interests of your own careers, the challenges are more exciting and success more rewarding. Harnessing the power of research effectively will, of course, depend on our success in transforming our science and technology system within a partnership between government, players in science and technology and the rest of civil society.

The first steps have been taken. South Africa's newly-democratic government includes, for the first time, a Minister with an overarching responsibility for Science and Technology. He is charged, amongst other things, with facilitating the development of policy that will promote the use of knowledge to help achieve a better life for all South Africans.

As a preliminary step, and after wide consultation, the government has approved a restructuring of the governing bodies of our science councils to promote greater representativity and orient their activities towards the needs of society as a whole. A National Advisory Council on Science and Technology will be formed, drawing from the scientific community, the private sector and other spheres of civil society.

A still more comprehensive process has been set in motion. A White Paper will provide the opportunity for the widest consultation and public debate on the choices we face as a nation, on how to use limited resources to generate, acquire and apply knowledge in pursuit of economic, social and cultural development. This will have to include a Research and Technology Audit to assess the state and capacity of South African Science and Technology.

Indeed, South Africa's hosting of this conference should help reassure foreign and local scientists about the promise and destiny of science in our country. That destiny is partly one of active collaboration with the international scientific community, both within the African continent and across the globe. Especially with regard to Africa, we need to examine how we can as a continent share the technology and skills base we have. South Africa's and the continent's scientific and technological enterprise will only be strengthened if the talents of the country and the continent are fully tapped.

Ladies and gentlemen, the choices and the challenges we face in South Africa are part of the universal challenge of harnessing the awesome powers of both destruction and progress commanded by science. This carries with it many uncertainties. At the one level, many of us can only marvel at the intellectual thrill in the observation of sub-atomic phenomena and the uncertainties of quantum mechanics. On the other hand, the uncertainty of the sub-atomic world of human drives and passions, in which folly and wisdom intermingle, lie at the root today of the drive by some to continue with nuclear tests while the world sets out on a new rational course.

I am confident that this conference will serve the objectives of promoting the humane, economical and productive use of science to build a better world. May I once more extend a warm welcome to our visitors, and wish you the most exciting deliberations.

Together let us prepare for the 21st century!

I thank you!