

The DNA Charter, Venice 2009

The DNA revolution is more than an intellectual revolution of magnitude comparable to Galileo's and Newton's laws of mechanics and gravitation. The knowledge of DNA structure and function has led to the development of biotechnology and has affected and will continue to affect every aspect of our lives, from the food we eat to the materials we use and the energy we consume, our health and whether we live or die. Through DNA we have reconstructed the whole "tree of life" and the origin of the human species. No other single discovery has or will have such far-reaching consequences.

Recognising this global and pervasive impact, participants of the 5th World Conference on the Future of Science propose to seek ways to:

1. Encourage full discussion of the ethical and anthropological questions raised by the DNA revolution while maintaining total respect of differences in faith and belief. To address and resolve issues of genome privacy and genome ownership, in order to avoid on one hand the abuse of personal information or the paralysis of research and applications on the other.
2. Increase investment in basic and translational research in molecular biology/DNA science, since the technology is costly, and requires highly trained scientists.
3. Foster the dissemination of DNA culture and understanding among the lay public and representative of the media, so that they can make informed decisions on the advantages and risks associated with the development of DNA technology. Promote education on molecular biology/DNA science at all levels, from primary school through university and beyond. It is vital to produce sufficient medical professionals (including physicians) who are specialists in molecular medicine.
4. Encourage the responsible use of DNA-based technologies in agriculture and in engineering organisms to urgent human needs, such as biofuels and sustainable agriculture.
5. Encourage the interaction and exchange with scientists world-wide, including developing economies.
6. Reduce the costs of new biomolecular pharmaceuticals. It is not acceptable to leave all new drug research and development in the hands of the pharmaceutical companies, with their overriding concern for market values. We would like to encourage academia and not-for-profit organisations to perform genetic research aimed at identifying new target molecules and producing new agents to interact with them.
7. Create an effective worldwide organisation for research and coordination of information on orphan diseases and diseases that mainly affect people in poor countries. The aim would be to make knowledge, applications and potential solutions freely accessible to all, particularly those in poor countries.
8. Encourage politicians in developed countries to promote price differentials for essential drugs and diagnostics to ensure that they are available to people in underserved countries.