

EGN Events include:

- Conferences
- Short courses
- Workshops
- Seminars
- Public lectures
- Artist/ Writer in residence programmes
- ESRC Festival of Social Science
- Edinburgh International Book Festival
- Café Scientifique

EGN Publications include:

- Books
- Book chapters
- Journal articles
- Conference papers and presentations
- Policy briefings
- Reports
- Consultation responses
- Reviews
- Genetics and Society book series
- Genomics Society and Policy Journal
- 'the gen' – ESRC Genomics Network Newsletter

For further information visit
www.genomicsnetwork.ac.uk
or email info@genomicsnetwork.ac.uk

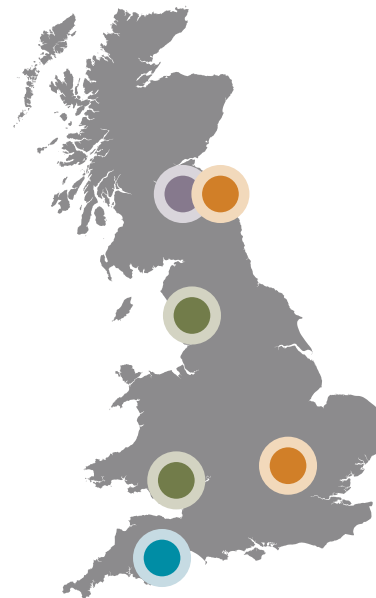
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The ESRC Genomics Network

www.genomicsnetwork.ac.uk

The ESRC Genomics Network (EGN) is a £25 million investment by the Economic and Social Research Council (ESRC), dedicated to examining the development and use of the science and technologies of genomics. The activities of the EGN encompass the whole field of genomics, covering areas as diverse as DNA profiling and identity politics, plant and animal genetics, personal genomics, embryonic stem cell research, and synthetic biology.

The EGN spans five of the UK's leading universities, and involves more than a hundred researchers, from professors to PhD students, as well as an international cast of visiting research fellows. It is one of the biggest social science investments in the ESRC's current portfolio, and has grown into the largest concentration of social scientific research on genomics in the world.



● Cesagen

The ESRC Centre for Economic and Social Aspects of Genomics

www.genomicsnetwork.ac.uk/cesagen

Based at Cardiff and Lancaster Universities, Cesagen is a multidisciplinary centre investigating the economic, ethical and social factors that shape knowledge in genomics and other life sciences.

● Egenis

The ESRC Centre for Genomics in Society
www.genomicsnetwork.ac.uk/egenis

Based at the University of Exeter, Egenis is a centre of expertise on the development and societal impact of the life sciences, examining and elaborating on emerging uses of genomics in society and in science.

● Innogen

The ESRC Centre for Social and Economic Research on Innovation in Genomics
www.genomicsnetwork.ac.uk/innogen

Based at the University of Edinburgh and the Open University, Innogen studies innovation in genomics and the new life sciences; how these new technologies are governed and regulated; and the impact of life science innovation in developed and developing countries.

● Genomics Forum

The ESRC Genomics Policy and Research Forum
www.genomicsnetwork.ac.uk/forum

Based at the University of Edinburgh, the Forum pioneers new ways to promote and communicate social research on contemporary life science and ensures that research from the Genomics Network informs policy, scientific practice and public debate.

What is
genomics?

E·S·R·C
ECONOMIC
& SOCIAL
RESEARCH
COUNCIL

ESRC
genomics
network

Genomics is the study of genomes.

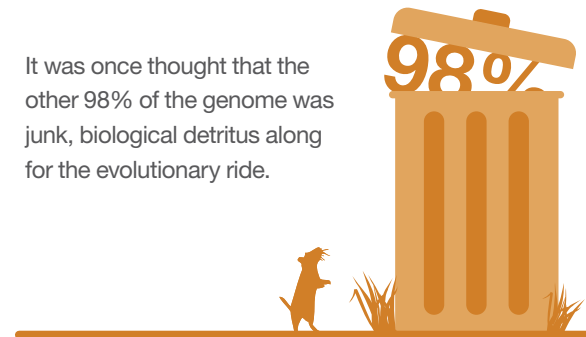
Every living organism on the planet, from humans to rice to the flu virus has a genome, which contains a mass of information essential for the proper development of the organism.

Genomes are made up of a nucleic acid, either DNA or RNA, arranged in sections called chromosomes. The sequence of chemicals in the DNA or RNA contains a vast amount of information about how genes can be used and controlled by the organism for development and everyday functioning. Comparing the genomes of different species provides an insight into how life evolved while comparing differences between individuals of the same species opens up the possibilities of 'personalised knowledge' about an individual's unique genetic make up.

People often ask why we talk about genomics rather than the more familiar genetics

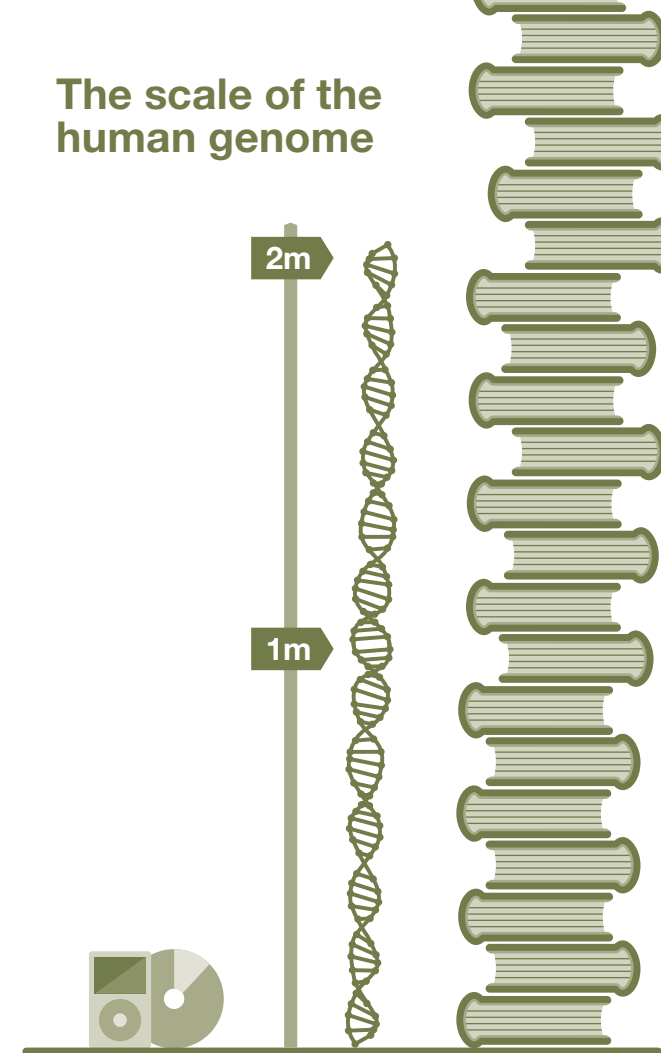
One reason is that as we have learned more about the genome it has become harder and harder to say what parts of the genome are the actual genes. It is often said that a gene provides the information for making a protein, one of the molecules that perform most biological functions. But many separate pieces of the genome may be involved in producing a protein, and the same bit of genome sequence may be involved in producing many different proteins. Moreover, less than 2% of the genome provides the coded sequence that determines the order of chemical constituents in proteins.

It was once thought that the other 98% of the genome was junk, biological detritus along for the evolutionary ride.



But it now seems that much more of the genome, perhaps most of it, serves some vital function, and the processes by which living things develop are a great deal more diverse and more complex than was once imagined. Genomics, therefore, marks a much broader understanding of biological processes than the more classical term, genetics.

The scale of the human genome



To give an idea of scale, if the human genome was unravelled, it would stretch to two metres in length; if the letters representing the genome were written out like a novel it would be a mighty tome, more than one million pages long, equivalent in length to some 600 Bibles. On the other hand, you could easily store the entire sequence on an ordinary iPod or a single DVD. Sequencing technology is now so advanced that it is possible to read an entire human genome in just a couple of months.

These are just some of the questions facing us as our knowledge of genomics grows

Are we ready to have access to such vast amounts of information and what effect does this knowledge have on our society?

Who should have access to the information our individual genomes hold: family members, doctors and the police or insurance companies?

We can sequence the genomes of key crops, parasites, bacteria and viruses. In agriculture, should we use the information provided to swap useful genes between species to improve our crops?

What about manipulating a virus to develop the ultimate bioweapon?