nature | ENCODE

2001 WILL ALWAYS BE REMEMBERED AS THE YEAR OF THE HUMAN GENOME.

The availability of its sequence transformed biology, and the exemplary way in which hundreds of researchers came together to form a public consortium paved the way for 'big science' in biology. It was an incredible achievement but it was always clear that knowing the 'code' was only the beginning. To understand how cells interpret the information locked within the genome much more needed to be learnt. This became the task of ENCODE, the Encyclopedia Of DNA Elements, the aim of which was to describe all functional elements encoded in the human genome. Nine years after launch, its main efforts culminate in the publication of 30 coordinated papers, 6 of which are in this issue of *Nature*.

Collectively, the papers describe 1,640 data sets generated across 147 different cell types. Among the many important results there is one that stands out above them all: more than 80% of the human genome's components have now been assigned at least one biochemical function.

The implications of the ENCODE findings extend to many fields in biology. In a News & Views Forum on page 52, scientists representing five different areas of research share their views on what the results mean to them and their work. On page 49, Ewan Birney, the leader and coordinator of the ENCODE consortium, discusses the challenges of doing consortium-driven science; related issues are explored in a Careers feature on page 165.

Dizzying amounts of data have been produced by the ENCODE project and are openly accessible; countless more analyses are therefore to be expected, in addition to the multitude now being published. Finding a balance between data collection and analysis is the topic of a News Feature on page 46.

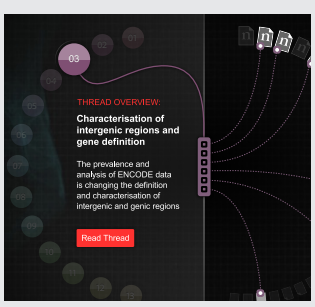
The papers, which are freely available to all, and the articles in this issue are complemented by an extensive range of online features (nature.com/encode). Among them are interactive figures in the overview ENCODE paper, which also features a virtual machine to allow you to interact more closely with the data and their analyses. In line with the community spirit with which the work was undertaken, we also present online the related papers published in *Genome Research* and *Genome Biology*. To help you navigate through the data we have created the Nature ENCODE Explorer and we introduce 'threads', which allow you to explore biological themes between the papers. We hope you enjoy the package.

Magdalena Skipper *Senior Editor*
Ritu Dhand *Chief Biological Sciences Editor*
Philip Campbell *Editor-in-Chief*

MORE ONLINE

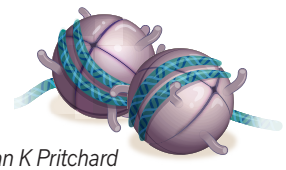
NATURE ENCODE EXPLORER

Nature ENCODE Explorer offers you a way to explore the wealth of data across all 30 ENCODE papers. By linking relevant paragraphs, figures and tables from the papers, the 'threads' allow you to examine different themes
nature.com/encode



COVER ILLUSTRATION (PREVIOUS PAGE): CARL DETORRES

CONTENTS



Available on the App Store

The free Nature ENCODE app for the iPad features all 30 papers plus videos and comment