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# Beyond the helix

he 50 years that have passed since DNA's double-helix structure was elucidated could be commemorated with skills that have evolved from progressive to *passé*. Pipetting? Prosaic. Gene cloning? Available in off-the-shelf kits. Whole-genome sequencing? Reserved for a handful of high-throughput, highly automated facilities. So what are the new skills or techniques that will keep molecular biologists in funding for the next few years?

Eric Green, director of the US Intramural Sequencing Center in Bethesda, Maryland, sees bioinformatics as the next frontier, but he quickly amends himself, saying that the conception of what bioinformatics was and what it is becoming is changing rapidly. Originally it involved the skills needed to find single genes in databases. The future will require scientists to manipulate large data sets, often moving from one to another and drawing parallels between them.

Eric Lander, director of the Whitehead Institute's Center for Genome Research in Cambridge, Massachusetts, forecasts a specific application for this approach. With several mammalian genomes soon to be completed, the future holds the prospect of cross-comparison of the various sequences, which will help researchers to identify what functions genes perform. There will be work for people who create the informatics tools, Lander says, as well as for the people who use them.

Perhaps the best way for molecular biologists to further their careers is to remember their history, but keep their perspective. Green notes that tools are a means and not an end. In the 1970s and 1980s, he says, lab heads didn't advertise for a pipetter, they searched for molecular biologists. So too, in the future, scientific directors will not seek bioinformaticians, but scientists who use the latest databases, software and algorithms as tools.

## **Paul Smaglik**Naturejobs editor





## Contents

#### SPECIAL REPORT

Shedding light on stem-cell research

p92

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