The mosaic on the cover to this special section is by Leslie Gaffney and Eric Lander, created by Runaway Technology, Inc. with PhotoMosaic by Robert Silvers. (Courtesy of the Broad Institute of Harvard and MIT.) The issue cover shows an adult female chimpanzee, Jolie of the Ngogo community in Kibale National Park, Uganda, less than a month before she gave birth to her first infant. The photo is part of photographer Kevin Langergraber's ongoing study of the effect of genetic relatedness on patterns of affiliation and cooperation in wild chimpanzees.

THE CHIMPANZEE GENOME

Until now, genome sequence information has shown us how many seemingly very different organisms are amazingly like humans. At a conservative estimate we share about 88% of our genes with rodents and 60% with chickens. Applying a more liberal definition of similarity, up to 80% of the sea-squirt's genes are found in humans in some form. So it's no surprise that we are still asking, "What makes us human?" To apply genomics to this quest, we need to shift the focus to look at our closest living relative, the chimpanzee. Given that we share more than 98% of our DNA and almost all of our genes, chimps are the best starting point to study not the similarities, but the minute differences that set us apart.

We are therefore extremely pleased to present this special section to commemorate the genome of the common chimpanzee, *Pan troglodytes*. In doing so, we hope to provide a resource for more than just genomics. We introduce the section with a timeline that charts the history of the chimp. This is followed by four Progress pieces that review recent work on chimp culture and behaviour, psychology and neural processing of number systems, as well as a closer look at brain anatomy and neurogenetics at the single-gene level.

On page 69, the Chimpanzee Sequencing and Analysis Consortium reports analysis of the long-awaited draft genome sequence. This is supported on page 101 by Hughes *et al.*, with the sequence of part of the chimpanzee Y chromosome. Comparing the genetic code of humans and chimps will allow us to comb through each gene or regulatory region to find single changes that might have made a difference in evolution, and the authors list some new candidates for further study. Two more research papers by Cheng *et al.* (page 88) and Linardopoulou *et al.* (page 94) detail changes in highly variable regions in the human and chimp genomes; additions or deletions of larger chunks of DNA may be as important as single nucleotide changes in shaping our genomes.

Finally, we need physical evidence to tell us how chimps and humans may have lived millions of years ago. Surprisingly, to date there has been no fossil record of the chimp; on page 105, McBrearty and Jablonski report the first unequivocal fossil evidence of the genus *Pan*.

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