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Who'll sweep the Gene Sweepstake?

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Sure, the [completion](#) of the Human Genome Project is a giant leap forward for humanity, but it also means a cool \$1,500 in cash could soon land in one lucky scientist's pocket. That's roughly what the [Gene Sweepstake](#) kitty is up to these days. The gamble is simple - guess the number of genes in the human genome, place a bet, and if you're right, you'll win the jackpot. The pool is now between \$1,000 and \$1,500.

"It took place after drinks," said the sweepstake's bookkeeper David Stewart, executive director of courses and meetings at Cold Spring Harbor Laboratory, New York. "The bets were, you know, made after a banquet," Stewart said. "A non-scientist bet 300,000, playing the highball just for the hell of it."

So far, 165 bets have been placed by scientists in more than 50 countries. The mean prediction is 61,170 genes, with the lowest guess at 27,462 and the highest at 153,478.

Ewan Birney at the European Bioinformatics Institute and Francis Collins, director of the National Human Genome Research Institute, began the contest at the annual Cold Spring Harbor Meeting on Genome Sequencing and Biology in 2000. "I bet 49,551 which is now looking way, way too high," Birney said.

More recently, the hard-nosed estimates of the number have been coming in between 27,000 and 29,000. "The precise number of genes is kind of a numerology sort of thing," Birney said. Scanning the 3 billion-or-so base pairs in the human genome for discrete genes remains no easy task, with each gene prediction algorithm having its own pluses and minuses, Stewart explained.

The contest rules include a number of important footnotes. For instance, only protein-coding genes count because RNA genes were considered too difficult to assess by the time of the human genome project's completion. No mitochondrial genes are counted, nor are selfish genes that are just out to replicate across the genome. The gene set is defined by the germ-line set of genes, so genes resulting from later recombinations in immune cells to produce antibodies also do not count.

In 2000, it cost \$1 to make a bet, rising to \$5 in 2001. From 2002 on, a wager costs \$20. Bets are for one number, with one bet per person per calendar year; and once a bet is made, the predicted number cannot be changed. The closest number wins, and in case of ties, the pot is split. Most bets were made in 2000, with few gamblers betting more than once, said Stewart.

All bets must be handwritten in a lab notebook kept at Cold Spring Harbor Laboratory and are not accepted by e-mail or by phone. "We're not a casino here. Otherwise you'd have to have it offshore somewhere," Stewart said.

The sweepstake remains open until the late May/early June [Genome of Homo Sapiens](#) symposium at Cold Spring Harbor, where the correct gene number will be determined and a winner announced. Familiar people who have already placed bets include James Watson, Eric Lander, and Francis Collins. "[Craig] Venter was at the 2000 meeting, but he flew off to get the King Faisal International Prize for Science in Saudi Arabia, so he didn't bet," Stewart said. "He's due to show up here in June. I'm sure he can spare \$20."

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