

We've mapped a fly brain down 'to the very last neuron'. That's a big deal for human brain research

[A]s director of Janelia Research Campus, part of the Howard Hughes Medical Institute, [Gerry Rubin has] spent the last 12 years leading a team that's mapping out the fly brain's physical wiring, down to the very last neuron.

Janelia researchers [announced a major step](#) in that quest on [January 22], [releasing a wiring diagram](#) of the fly brain that contains 25,000 [neurons](#) and the 20 million connections between them. The so-called "connectome" corresponds to the fly's hemibrain, a region that's about 250 micrometers across—the size of a dust mite, or the thickness of two strands of hair. It's about a third of the total fly brain, and contains many of the critical regions responsible for memory, navigation and learning.

Researchers like Rubin believe a physical blueprint of the brain could become a foundational resource for neuroscientists—doing for brain science what genome sequences have done for genetics. The argument is that to get anywhere with understanding brain circuits, you first need to know what the circuits are, and what kinds of cells they join. That physical schematic becomes a roadmap for all kinds of inquiries, Rubin says—anything from understanding the role of the brain's wiring in psychiatric disorders to how our brains store memories.

[Read the original post](#)