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Cori Bargmann heads the Chan Zuckerberg Science Initiative, a philanthropic effort launched in late 2016 to support biomedical research.

Three ways to accelerate science

Chan Zuckerberg Science will prioritize the elements that made roundworm studies soar — creativity, openness and shareable resources, writes its president, **Cori Bargmann**.

In 1987, I joined the lab of Robert Horvitz at the Massachusetts Institute of Technology in Cambridge as a postdoctoral fellow. I was fascinated by the idea of using genetics to probe the neural basis of behaviour. And a unique resource drew me to the tiny transparent worm *Caenorhabditis elegans*: a wiring diagram of the 302 neurons in the adult worm's nervous system.

Work led by John White, then a

C. elegans researcher at the Medical Research Council's Laboratory of Molecular Biology (LMB) in Cambridge, UK, had mapped all the connections between the worm's neurons by slicing the animal into thousands of sections and tracing each cell using electron microscopy. This wiring diagram, combined with the worm's short life cycle of a few days, offered a tremendous opportunity to relate the

development and function of the nervous system to genes and neurons. And it was just one of the many shared resources available for *C. elegans* research.

The findings made using *C. elegans* have been remarkable. Among these are the caspase system that controls programmed cell death; the netrin system that guides neuronal connectivity; and the post-transcriptional gene-regulatory ►