Maps to explore the brain

In its entirety, the human brain is composed of billions of neurons, which form trillions of connections. Some of those brain networks are hard at work right now, passing what your eyes are observing from neuron to neuron to make sense of the squiggles you see before you. Understanding the human brain's architecture, which influences its function, is indeed a daunting undertaking.

The scales vary, but model organisms offer somewhat less complex neural architectures to tease apart. From mapping connections to cataloguing cell types, there are ever-growing databases of brain information for a number of animals, from worms and sea squirts to flies and zebrafish and to mice and other mammals (including humans). We look at some of the different ways that data is collected in the November Technology Feature.

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What to do about the microbiome...

The microbiome is another complex feature that, as is increasingly reported in the literature, can influence a lot about how animals function in both health and disease. There's still much to learn about the microbiome itself and how it contributes to observed phenotypes, but in the meantime there's a growing chorus that the microbiome is not a variable to be ignored in animal research. Even if it's not exactly known, there are steps to control for its influence and prevent misleading experimental results.

So what influences the microbiome and what can you do about it? We explore these questions in a new News Feature this month.

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