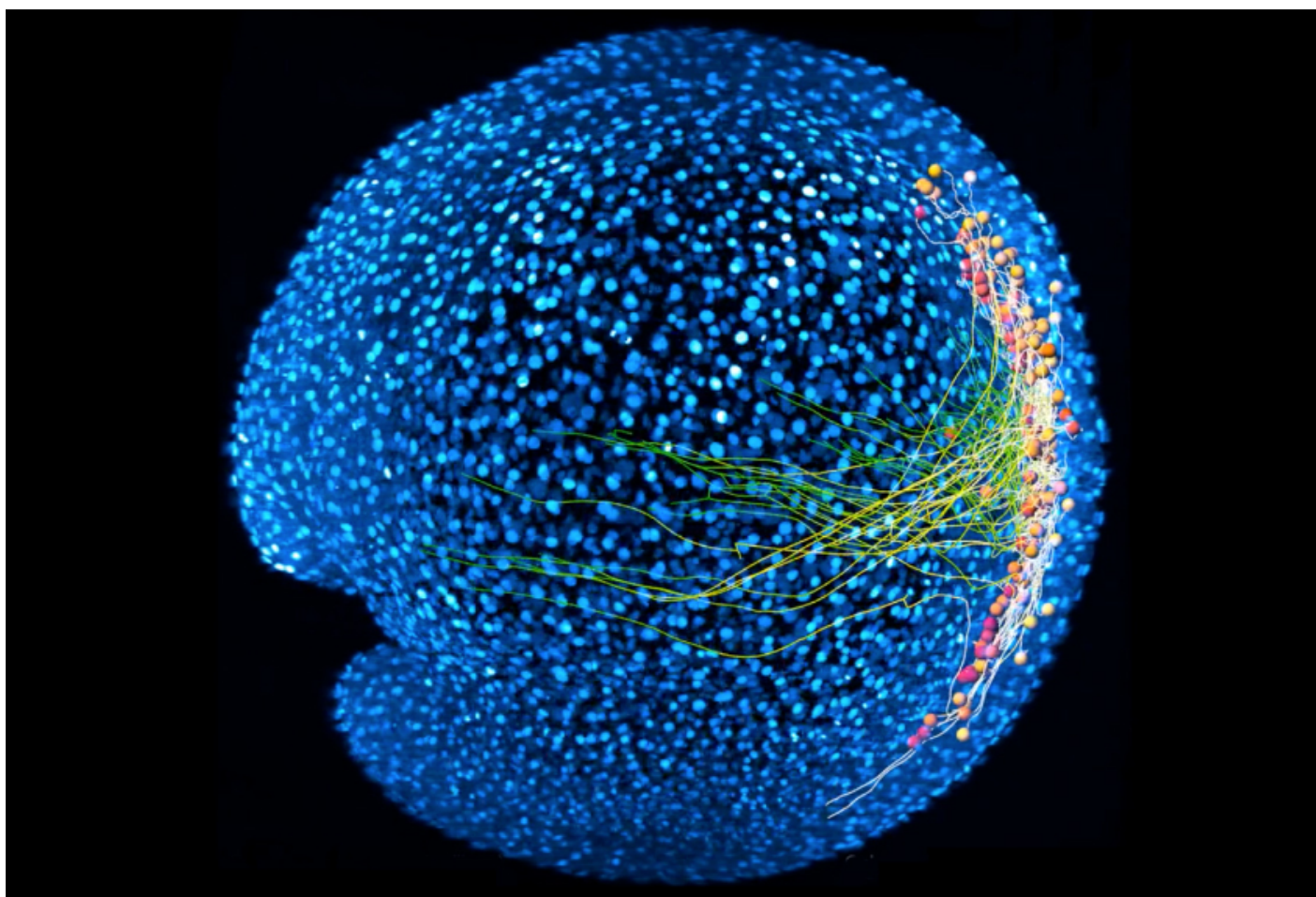


TOOLBOX

New technique follows single neurons from birth to brain circuit

BY VERONICA HACKETHAL

1 NOVEMBER 2019



A new technique lets researchers watch brain circuits as they're being built — starting from the individual neurons' birth¹.

The method, applied in zebrafish, represents the first time scientists have visualized this entire process and may provide clues to how the brain develops in people with autism.

Neurons born in the fetal brain mature and differentiate into specialized cells before migrating to their final destinations. Once they reach those destinations, they make connections with other neurons and form networks that control the organism's functioning.

Until now, researchers have had to choose: Visualize these processes in the whole brain at low resolution, or look at single cells in detail at one location and forfeit the big picture.

The new method lets them follow an individual neuron's journey from its birth to the first time it fires in a circuit.