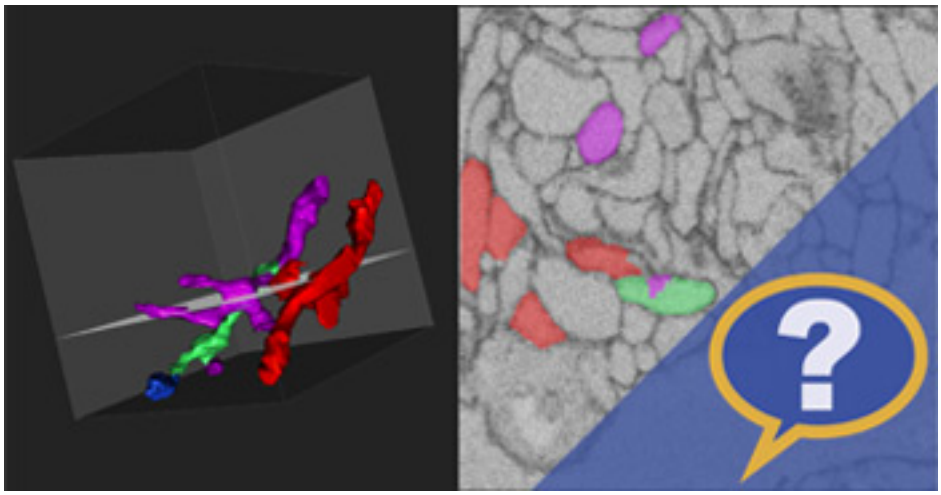
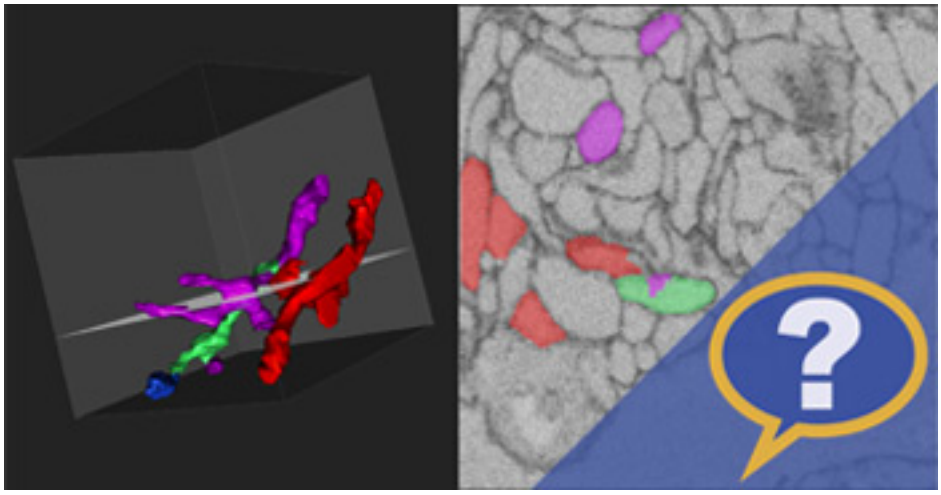
OPINION

Can we crowdsource autism research?

BY **GREG BOUSTEAD**

17 DECEMBER 2012





Game on: In EyeWire, players use a three-dimensional reference map (left) to navigate stacked electron microscopy slices of brain tissue (right).

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Sebastian Seung wants you to solve one of neuroscience's biggest challenges by goofing off. More specifically, the Massachusetts Institute of Technology neuroscientist hopes you and thousands, maybe millions, of others will help map the connections of the brain by playing **EyeWire**, a new online community game he officially launched last week.

Read Seung's SFARI guest blog introducing the project »

EyeWire is the latest in a string scientific research projects couched as games that leverage the scaling power of the Web, including **Foldit** (which makes a game out of protein structure prediction) and **Phylo** (a nucleotide-arranging puzzle designed to identify evolutionary relationships among DNA sequences).

The concept behind EyeWire is fairly simple. Using a three-dimensional (3D) cubic map as a guide, players trace individual neural pathways through stacked slices of electron microscopy data, identifying neural connections along the way.

According to Seung, this approach could help reveal the faulty wiring involved in neurodevelopmental disorders such as autism and schizophrenia.

But not everyone agrees, as highlighted by the spirited **Seung–Movshon debate** held 2 April at Columbia University in New York City.

Playing EyeWire for the first time, a few things become immediately clear: It's tricky, addictive and beautiful. Scanning the 3D renderings while flipping through the microscopy slices is a thrill.

I was struck by the notion that an untold number of strangers out in the world were simultaneously killing time with this quirky game — and that we were all somehow contributing to science. (You can try the game yourself at **EyeWire.org**.)

EyeWire is just one example of how to capitalize on people power for research.

- **What other problems in neuroscience, or in autism research specifically, might**

benefit from a crowdsourcing approach?
- **Is attempting to create a map of all neural connections worth the effort — will it reveal enough about brain function to justify the enormity of the task?**

What do you think? Share your thoughts in the comments section below.

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