

SPOTTED

# Network television; facing forward; warm welcome

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## Network television

In a neuroscience first, scientists have **recorded the activity** of every neuron in a hydra — a tiny, transparent aquatic animal related to jellyfish.

The hydra's nervous system consists of a few thousand neurons that spread throughout its body like a net. Researchers genetically modified the neurons to glow when they fire. This allowed them to watch circuits of neurons light up in real time.

Different networks of neurons light up when the hydra opens its mouth to eat or huddles in a ball to hide from predators, the researchers reported 30 March in *Current Biology*.

*New Scientist* **highlighted the discovery** this week, with an incredible video of the hydra's nervous system in action.

"Hydra have the simplest 'brain' in the history of the earth, so we might have a shot at understanding those first and then applying those lessons to more complicated brains," lead researcher **Rafael Yuste**, professor of biological sciences at Columbia University, told *New Scientist*.

### SOURCES:

**Current Biology** / 30 Mar 2017

Non-overlapping neural networks in *Hydra vulgaris*

<http://www.sciencedirect.com/science/article/pii/S0960982217302208>**New Scientist** / 11 Apr 2017

Entire nervous system of an animal recorded for the first time

<https://www.newscientist.com/article/2127625-entire-nervous-system-of-an-animal-recorded-for-the-first-time/>

## Facing forward

Researchers are repurposing facial recognition software to **identify genetic conditions**, *STAT* reported this week.

Certain genetic conditions are associated with atypical facial features, called dysmorphology. A 2014 *Spectrum* story explored **dysmorphology in autism**.

The *STAT* story highlights the latest efforts to spot dysmorphic features in children with neurodevelopmental conditions. Researchers are using databases of photos of people with the conditions to train computer algorithms to recognize dysmorphic features.

A **computer program** described last month in the *American Journal of Medical Genetics* can detect DiGeorge syndrome and Down syndrome. Another program, called **Face2Gene**, uses facial measurements to determine the probability that a person has a particular genetic condition.

### SOURCES:

**STAT** / 10 Apr 2017

Facial-recognition software finds a new use: diagnosing genetic disorders

<https://www.statnews.com/2017/04/10/facial-recognition-genetic-disorders/>**American Journal of**

**Medical Genetics** / 22 Mar 2017

22q11.2 deletion syndrome in diverse populations

<http://onlinelibrary.wiley.com/doi/10.1002/ajmg.a.38199/full>

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## Private pitfall

An article in *The New York Times* highlights a little-known downside of **private school vouchers**. Some parents of children with neurodevelopmental conditions see the vouchers as a way to access better education for their children. But many don't realize that by enrolling their children in private schools, they forfeit their child's rights under the federal Individuals with Disabilities Education Act.

"I never in a million years thought that in this private educational setting that my child would not be protected by state and federal law," Lisa Siegel, who has a son with autism, told *The New York Times*.

Siegel's son was suspended from his private school because of behavioral problems. Parents of children in public schools have the right to a hearing where they can challenge disciplinary action if

a child's behavior resulted from a disability. Parents of children in private schools do not have this right. "You don't have much recourse," Siegel told the newspaper.

**SOURCES:**

**The New York Times** / 11 Apr 2017

Special ed school vouchers may come with hidden costs

<https://www.nytimes.com/2017/04/11/us/school-vouchers-disability.html>

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## Home test

The gene-testing company **23andMe** has received approval from the U.S. Food and Drug Administration for an **at-home test** that gauges a person's likelihood of developing any of 10 conditions, *Nature* reported this week.

The test will tell people if they carry mutations associated with conditions such as Parkinson's disease, Alzheimer's and celiac disease — a severe form of gluten intolerance. All of the conditions have strong ties to specific genetic mutations. The test does not take into account non-genetic risk factors, such as lifestyle and family history.

Some experts fear that users will have difficulty interpreting the test results without the guidance of a genetic counselor. "I'm not a big fan of cutting out the middleman when the middleman is a trained professional and most of the country doesn't understand much about health," Stanford bioethicist **Hank Greely** told *Nature*.

**SOURCES:**

**Nature** / 06 Apr 2017

23andMe given green light to sell DNA tests for 10 diseases

<http://www.nature.com/news/23andme-given-green-light-to-sell-dna-tests-for-10-diseases-1.21802>

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## Warm welcome

The beloved children's show "Sesame Street" **welcomed a new Muppet** this week. Her name is Julia, and she has autism.

Julia doesn't respond right away when Big Bird introduces himself, she has a strong negative reaction when she hears an ambulance siren, and she takes longer to join in games. But her friends are understanding and supportive of her differences.

Watching the episode was **an emotional experience** for **Jennifer Malia**, an English professor at Norfolk State University in Virginia, whose son and daughter have autism. Malia also has an autism diagnosis.

“Julia gives me hope that my children and their peers will grow up in a world where autism is normalized, rather than stigmatized,” Malia wrote in an op-ed for *The New York Times*. “I hope that having Julia as an accepted and likable character on ‘Sesame Street’ will make it easier for my kids on the spectrum to navigate the social world.”

**SOURCES:**

**The New York Times** / 07 Apr 2017

What a Muppet with autism means to my family

<https://www.nytimes.com/2017/04/07/well/family/what-a-muppet-with-autism-means-to-my-family.html>

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## Job news

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