SPOTTED

Political scientists; folate block; mutational mosaic and more

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Political scientists

After a year that has seen science under political attack, scientists are running for office in the U.S. in huge numbers, *The Huffington Post* reported 3 February. Hoping to add to the sole Ph.D. scientist in Congress (Bill Foster, a Democrat from Illinois), 60-plus members of the scientific community have thrown their hats in the ring for federal office this year, and another 200 are pursuing state legislative seats.

A political action committee, launched in 2014 to encourage scientists to enter politics, monitors the numbers and says that 200 science professionals also are running for school boards.

SOURCES:

The Huffington Post / 03 Feb 2018

The largest number of scientists in modern US history are running for office in 2018 https://www.huffingtonpost.com/entry/science-candidates_us_5a74fffde4b06ee97af2ae60

Intense world

Children with autism seem to find social stimuli **unrewarding and too intense**, according to new brain activity findings in children with and without the condition. When children on the spectrum look at faces, neurons in the brain's reward pathway are less active than they are in typical children who view faces. These neurons also show patterns suggesting that the children with autism experience overly intense sensations after seeing faces, researchers reported 30 January in *Molecular Autism*.

Spectrum | Autism Research News

https://www.spectrumnews.org

SOURCES:

Molecular Autism / 30 Jan 2018 Oscillatory rhythm of reward: anticipation and processing of rewards in children with and without autism https://molecularautism.biomedcentral.com/articles/10.1186/s13229-018-0189-5

Motor-skill genetics

Missense mutations, which cause an amino acid switch in a protein, are common in autism. But how these changes associate with autism features has been unclear. Findings published 6 February in the *Proceedings of the National Academy of Sciences* link some of these mutations to **poor motor skills** in children with autism.

SOURCES:

Proceedings of the National Academy of Sciences / 06 Feb 2018 Damaging de novo mutations diminish motor skills in children on the autism spectrum http://www.pnas.org/content/early/2018/02/05/1715427115

Epilepsy watch

Many of the 470,000 children with **epilepsy** in the United States also have autism. The U.S. Food and Drug Administration has cleared a smart watch that monitors the wearer for oncoming generalized tonic-clonic seizures, considered the most dangerous kind. The Embrace watch learns to **identify seizures** and alerts a caregiver, according to a 5 February statement from its maker, **Empatica Inc**, a biotech company based in Cambridge, Massachusetts, and Milan, Italy.

SOURCES:

Empatica Inc. / 05 Feb 2018

Embrace by Empatica is the world's first smart watch to be cleared by FDA for use in neurology https://www.prnewswire.com/news-releases/embrace-by-empatica-is-the-worlds-first-smart-watch-to-be-cleared-by-fda-for-use-in-neurology-300593398.html

Folate block

Children with autism and their families tend to produce antibodies to a protein that binds folic acid, according to findings published 2 February in *Autism Research*. The antibodies block the binding protein from transporting folate across the placenta to the fetus.

About 75 percent of children with autism and their unaffected siblings **tested positive for the antibodies**, as did 69 percent of their fathers and 59 percent of their mothers. Only 29 percent of unrelated, unaffected children carried the autoantibodies. The finding is intriguing given the potential of **folate supplements** during pregnancy for reducing the odds of autism in children.

SOURCES:

Autism Research / 02 Feb 2018 Folate receptor autoantibodies are prevalent in children diagnosed with autism spectrum disorder, their normal siblings and parents http://onlinelibrary.wiley.com/doi/10.1002/aur.1934/abstract

Mutational mosaic

The neurons that compose our brains may be quite different genetically from the cells they came from. New findings suggest that as neurons proliferate, they **accumulate mutations** to create a genetically mosaic population.

The investigators checked genomes of neurons from the forebrains of three fetuses. They found that each cell has 200 to 400 single DNA letter changes. They determined that the cells gain 1.3 mutations each time they divide during embryonic development.

These mutations vary in type and when they crop up during development. The variation might increase cell diversity but could also set the stage for later dysfunction, the researchers write 2 February in *Science*.

SOURCES:

Science / 02 Feb 2018

Different mutational rates and mechanisms in human cells at pregastrulation and neurogenesis http://science.sciencemag.org/content/359/6375/550

Closed to comments

They built it, but almost no one came. The U.S. National Institutes of Health announced 1 February

that its **experiment to allow comments** on articles in its PubMed database has failed. The main reasons for closing PubMed Commons, the agency said, are the limited number of comments and the stiff competition from more popular platforms for post-peer-review commentary.

SOURCES:

NCBI Insights / 01 Feb 2018 PubMed Commons to be discontinued https://ncbiinsights.ncbi.nlm.nih.gov/2018/02/01/pubmed-commons-to-be-discontinued/

Justice reversed

A Maryland doctor whose license was suspended in 2011 for using a **dangerous**, **unproven drug** on young people with autism has had a day in court. Mark Geier **sued the Maryland Board of Physicians**, saying it violated his medical privacy when it suspended his license. A judge has ordered individual board members and others involved in the investigation to pay damages to Geier. The defendants plan to appeal, *The Washington Post* reported 3 February.

Geier's main complaint in the suit was that the board made public some private medical information about him and his family to embarrass them. One former board member told *The Washington Post* that the judge in the case seemed to "have a bone to pick with the Board of Physicians."

SOURCES:

The Washington Post / 03 Feb 2018

Regulators who targeted anti-vaccine doctor may pay millions for humiliating him https://www.washingtonpost.com/local/md-politics/regulators-who-targeted-anti-vaccine-doctor-may-pay-millions-for-humiliating-him/2018/02/03/b63ea6dc-faf8-11e7-ad8c-ecbb62019393_story.html

Neurodiversity explainer

The neurodiversity movement is controversial in the autism community, generating a spectrum of viewpoints about its meaning and importance. **Emily Paige Ballou**, a woman with autism, writes that she's figured out why people are "going on circles" in their disagreements about **neurodiversity's implications**. An important step, she writes, is to know that neurodiversity advocates view everyone on the spectrum, including themselves, as having a disability. She elaborates on bridging the divide in a 6 February essay for *Thinking Person's Guide to Autism*.

https://www.spectrumnews.org

SOURCES:

Thinking Person's Guide to Autism / 06 Feb 2018

What the neurodiversity movement does — and doesn't — offer http://www.thinkingautismguide.com/2018/02/what-neurodiversity-movement-doesand.html

Mouse movies

After painstakingly tracking fluorescently labeled mouse neurons every 12 to 24 hours for two months, researchers have **found some surprises**: Stem cells in the adult mouse brain become active and then either give rise to neurons or go quiet again. Some of the stem cells yield just a couple of short-lived neurons, whereas others produce many more long-term survivors, the researchers reported 9 February in *Science*.

SOURCES:

Science / 09 Feb 2018 Live imaging of neurogenesis in the adult mouse hippocampus http://science.sciencemag.org/cgi/doi/10.1126/science.aao5056

News tips

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