SPOTTED

Dividing autism; novel messengers; million-dollar mark and more

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Dividing autism

Autism researcher **Simon Baron-Cohen** argues for splitting the autism diagnosis into subtypes in a 4 May op-ed in *Scientific American*. He proposes a naming system similar to that used for diabetes, with ‘type 1’ and ‘type 2’ forms of autism retained under “the single umbrella category called the autism spectrum.” He suggests that people on the spectrum could “transition freely” among subtypes if their development warranted it.

According to Baron-Cohen, the inclusion of subtypes would speed up scientific discovery about the causes of autism and hasten our understanding of which interventions work best for each person on the spectrum.

SOURCES:

Scientific American / 04 May 2018
Is it time to give up on a single diagnostic label for autism?
https://blogs.scientificamerican.com/observations/is-it-time-to-give-up-on-a-single-diagnostic-label-for-autism/

Novel messengers

Researchers have revealed a version of nerve-cell signaling that **relies on mitochondria**. In classic nerve-cell communication, the cell ejects signaling molecules called **neurotransmitters** from a storage sac called a vesicle. Mitochondria, in turn, are best known for packaging ATP for cellular energy.

But newly identified oversized mitochondria can sidle up to signaling proteins in the cell membrane and dump their ATP. This ATP then passes through gates in the proteins and acts as a neurotransmitter, researchers reported 8 May in *Science Signaling*.

SOURCES:

Science Signaling / 08 May 2018
Chemical synapses without synaptic vesicles: Purinergic neurotransmission through a CALHM1 channel-mitochondrial signaling complex
http://stke.sciencemag.org/content/11/529/eaao1815

Million-dollar mark

If you're a neuroscience researcher with a lot of funding, don't expect the U.S. National Institutes of Health to add to your lab's coffers. Labs with **more than $1 million** in grants from the agency are less likely to get additional funds, *Science* reported 2 May. The tactic is intended to make space for early-career investigators or those whose applications were just edged out of being funded.

SOURCES:

Science / 02 May 2018
NIH's neuroscience institute will limit grants to well-funded labs
http://www.sciencemag.org/news/2018/05/nih-s-neuroscience-institute-will-limit-grants-well-funded-labs

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Reviewer recognition

If you have ever served as an anonymous reviewer, you might find this service appealing: The American Psychological Association has partnered with the peer-review platform Publons to **recognize peer reviewers** for the association's 30 core journals. Reviewers can click a button to store their reviews **in the system**, ensuring a record of their service that they can use in promotion and funding applications.

So far, the option has proved popular: More than 1,800 reviewers have already added 6,000 records, Clarivate Analytics, Publons' parent company, wrote in a 1 May statement.

SOURCES:

Clarivate Analytics / 01 May 2018
American Psychological Association partners with Publons to give greater recognition to their reviewers
https://clarivate.com/blog/news/american-psychological-association-partners-with-publons-to-give-greater-recognition-to-their-reviewers/

Monkey minds

The **prefrontal cortex**, a brain area involved in self-control and attention, is of interest in autism. Monkeys have been a go-to animal model for evaluating genetic effects in this region. Monkey models might need some recalibration in such studies, however: The human prefrontal cortex has almost twice the gray matter and 2.4 times the white matter as the **same region in macaques**, researchers reported 8 May in the *Proceedings of the National Academy of Sciences*.

SOURCES:

Proceedings of the National Academy of Sciences / 08 May 2018
Quantitative assessment of prefrontal cortex in humans relative to nonhuman primates
http://www.pnas.org/content/early/2018/05/07/1721653115

Spatial skills

Sex and number of autism features are tied to how a person **visually assesses an object** while mentally rotating it, according to an **eye-tracking** study published 4 May in *Autism Research.* Women with many autism features tend to look at the top and bottom corners of an angular structure made of a series of cubes during a **mental rotation task**, whereas men with a similar number of autism features look equally at all corners of the structure. People with fewer autism features tend to look only at the top corners of the structure.

SOURCES:

Autism Research / 04 May 2018
Gender differences in mental rotation strategy depend on degree of autistic traits
https://onlinelibrary.wiley.com/doi/abs/10.1002/aur.1958

Sequence search

Scientists seeking to identify DNA or protein sequences they have uncovered often use an online tool called **BLAST**, which matches them to known sequences. But not all sequences make it from a published study to the public database. PaperBLAST offers a way to find these unseen sequences by scouring the full text of published studies for **mentions of proteins and genes**, researchers reported 5 May in *mSystems.*

SOURCES:

mSystems / 05 May 2018
PaperBLAST: Text mining papers for information about homologs
http://msystems.asm.org/content/2/4/e00039-17

News tips

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