

NEWS

# Community Newsletter: Missing CUL3 in mice, implementation science, a poetic protocol

BY CHELSEY B. COOMBS

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Hello, and welcome to this week's Community Newsletter! I'm your host, **Chelsey B. Coombs**, *Spectrum's* engagement editor.

The first paper that sparked discussion in the autism research community this week is **about the gene CUL3** and comes from **Gaia Novarino**, professor of neuroscience at the Institute of Science and Technology Austria in Klosterneuburg.

So happy to share this work! We found that Cul3 haploinsufficiency leads to high levels of Plastin 3, an actin-binding protein, which plays an important role in neuronal migration. Thank you **@JasminMorandell** and Lena Schwarz for your amazing work!  
<https://t.co/U0poVSU5QI>

— Gaia Novarino (@gaianovarino) **May 25, 2021**

The team found that 'loss of function' mutations in one copy of CUL3 during development lead to social and cognitive changes in mice that are considered analogous to traits in autistic people. The mutations also cause cellular changes in vitro, which the team rescued by activating one copy of the gene. Mutations in CUL3 later in a mouse's life do not result in social and cognitive changes, the team further demonstrated.

The neuroscience community lauded the paper as "beautiful" and the findings as "great."

Congratulations! Beautiful paper!

— Laura Andrae (@L\_andrae) **May 25, 2021**

Beautiful study @gaianovarino!

<https://t.co/kezOkDwdiZ>

— Stefano Berto, PhD (@StefanoBerto83) **May 25, 2021**

Huge congratulations @gaianovarino @JasminMorandell and Lena Schwarz and @DanziLab @SchurLab @ISTAustria\_BIF - great new findings. Interdisciplinary Life Sciences @ISTAustria rock! <https://t.co/H83uagnILf>

— Simon Hippenmeyer (@HippenmeyerLab) **May 29, 2021**

Our next thread comes from **Rinad Beidas**, associate professor of psychiatry, medical ethics and health policy, and medicine at the University of Pennsylvania in Philadelphia, who **wrote an opinion piece** for *JAMA Psychiatry* along with **David Mandell**, professor of psychiatry and pediatrics at the University of Pennsylvania and *Autism* editor-in-chief.

Thread: I believe that we need to better integrate #behavioralecon into #impsci. I've been so lucky to partner with @PennCHIBE in this imp work. My hope is that this @JAMAPsych viewpoint starts a conversation and gets people excited about the potential.

<https://t.co/vjBXpH99Nk>

— Dr. Rinad Beidas (she/her) (@Rsbeidas) **June 2, 2021**

Implementation science — “the scientific study of methods to increase the adoption, implementation, and sustainment of evidence-based practices into routine care” — has seldom been used with behavioral economics, they write, but together they could “shape the environment so that the right (ie, evidence-based) choice becomes the easy choice.”

**Sarabeth Broder-Fingert**, associate professor of pediatrics at Boston University in Massachusetts, described it as a must-read.

If you read 1 paper this month make it this. Incredibly important work by a few of my idols ? **@Rsbeidas?** & ? **@DSMandell?** — Transforming Mental Health Care Delivery Through Implementation Science and Behavioral Economics ? **@JAMAPediatrics?**  
<https://t.co/CyZEo2spqx>

— Sarabeth Broder-Fingert MD, MPH (@sbroderfingert) **June 2, 2021**

Another trending commentary, published in the *Journal of Clinical Epidemiology*, takes the **quality of medical research** to task.

**\*\*NEW PAPER\*\***: highlighting the long standing problems of poor methodology in health research - we must value methodology and do MUCH better to give value to patients & society (<https://t.co/oy1rVSHWeA>) **@CSMOxford @ndorms @OxfordMedSci @UniofOxford #statstwitter #MedTwitter pic.twitter.com/vqt4AK7Rha**

— Gary Collins ???????? (@GSCollins) **June 1, 2021**

The authors say COVID-19 research illustrates an ongoing quality problem: Although scientists have pushed out huge amounts of both COVID-19-related pre-prints and publications, it is often of “poor quality,” they argue, pointing to hydroxychloroquine as an example. The immunosuppressive drug gained widespread popularity as a potential COVID-19 treatment before it was debunked.

“Currently, the scientific enterprise is doing a major disservice to patients and society,” the authors write.

**Noah Sasson**, associate professor of behavioral and brain sciences at the University of Texas at Dallas, tweeted that the commentary is relevant to the autism research field.

The critiques in this new paper definitely apply to autism research:

<https://t.co/Nr5Otgzhdh>

— Noah Sasson (@Noahsasson) **June 1, 2021**

Finally, please enjoy this poetic thread from **Anne Churchland**, professor of neurobiology at the University of California, Los Angeles, in which she **describes a new protocol** with the (less-fun) title, “Chronic, cortex-wide imaging of specific cell populations during behavior.”

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Is your need to image neurons extensive?  
But you're finding 2p too expensive?

Or perhaps the new theory you invented  
Requires the whole cortex be presented?

We know how that goes. We relate!

So I'm pleased to announce, on this date: [pic.twitter.com/jlYxgmRyIC](https://pic.twitter.com/jlYxgmRyIC)

— Anne Churchland (@anne\_churchland) **June 3, 2021**

That's it for this week's *Spectrum* Community Newsletter! If you have any suggestions for interesting social posts you saw in the autism research sphere, feel free to send an email to me at [chelsey@spectrumnews.org](mailto:chelsey@spectrumnews.org). See you next week!