



ALS Research Forum e-Newsletter Vol. 190

February 7, 2018

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Research News

[Meeting ALS at the Junction](#)

A key goal in developing drugs for ALS is to identify strategies that help keep muscle fibers and motor neurons connected to keep muscles moving. But how to identify potential therapies that stabilize neuromuscular junctions has proved especially challenging. In recent years, scientists at the Université de Montréal in Canada turned to small animal models in hopes to screen for drugs that may do just that. One of them, pimozone is now at phase 2.

[Scientists Call in the Chips to Model NMJs in ALS](#)

Neuromuscular junctions can be assembled *in vitro* from human cells according to results presented at the International Symposium on ALS/MND in Boston. But are these specialized synapses sufficient to screen for potential ALS drugs that stabilize these muscle fiber-motor neuron connections? Experts weigh in.

Check out [our full report](#) to find out how scientists aim to develop strategies that keep muscle fibers and motor neurons in people with ALS.

[Are ALS Dipeptide Repeat Ribbons Entangling Proteasomes?](#)

Researchers may be one step closer to understanding how dipeptide repeat proteins (DRP) may contribute to motor neuron toxicity in the most common form of ALS. The study, led by Max Planck Institute of Biochemistry's **Wolfgang Baumeister** in Martinsried, Germany, found, using cryo-electron tomography, that proteasomes in intact rat neurons expressing polyGA appeared to be stalled in the process of chopping up proteins, due to being stuck to poly GA aggregates. The findings suggest that motor neurons may become more vulnerable to ALS, in part, by accumulating misfolded proteins. The study is published online on February 1 in *Cell*.

[How Does A Neuron Avoid Aggregation of Liquid Protein Droplets](#)

Key RNA-binding proteins including TDP-43 and FUS liquefy. But in ALS, these liquid droplets harden into fibrillar aggregates, potentially contributing to the disease. Now, research teams led by Brown University's **Nicholas Fawzi** in Rhode Island and Technische Universität Dresden's **Jared Sternecker** in Germany, report new

molecular insights into how these biophysical changes may be regulated in neurons. The findings may help explain how this liquid-liquid phase transition occurs in these RNA-binding proteins and thereby, how to reverse them in the disease. The studies appeared on January 17 in *Cell* and *Stem Cell Reports*.

To learn more about how scientists aim to target these biophysical changes in ALS, check out [Phosphorylation of FUS Does Away with Droplets](#).

[Hot In Here? Or Is It Just My Mitochondria](#)

Mitochondria may heat up to more than 10°C above the human body temperature, much higher than previously thought according to a new study led by Hôpital Robert Debré's **Pierre Rustin** in Paris. The findings, according to experts, if correct, suggest it may be time to rethink how they operate and why their malfunction may contribute to neurodegenerative diseases including ALS.

Deals and Partnerships

[Karyopharm Exports KPT-350 To Biogen's ALS Pipeline](#)

Biogen added a new ALS drug candidate to its portfolio this month. The strategy, developed by Karyopharm Therapeutics in Newton, Massachusetts, aims to protect motor neurons in ALS by blocking nuclear export. The approach, which targets the exportin Xpo1, may reduce motor neuron toxicity in ALS in part, by helping keep TDP-43 from building up in the cytoplasm (see [January 2018](#) news). TDP-43 aggregates are estimated to clutter the cytoplasm of motor neurons in more than 95% of cases of ALS.

To learn more about nucleocytoplasmic transport in ALS, check out [TDP-43 Snarls Nuclear Traffic](#).

Check out [our website](#) to read more of the latest research advances in ALS.

Funding Opportunities:

February 2018

[High Impact Neuroscience Research Resource Grants](#). NINDS. Application due by February 9, 2018.

[Clinical Trial Readiness for Rare Neurological and Neuromuscular Diseases](#). Focus: Clinical Outcome Measures and Biomarkers. NINDS. Application due by February 15, 2018.

[Klingenstein-Simons Fellowship in Neuroscience](#). (For Early-Career PIs.) Applications due by February 15, 2018.

[Transformational Research: Canada 2018](#). Weston Brain Institute. Deadline extended! LOI now due by February 15, 2018.

NEW! [Starter Investigator-Initiated Research Grants](#). ALS Association. LOIs due by February 20, 2018.

NEW! [Multi-Year Investigator-Initiated Research Grants](#). ALS Association. LOIs due by February 20, 2018.

NEW! [Milton Safenowitz Post-Doctoral Fellowship](#). ALS Association. LOIs due by February 20, 2018.

[Neuroscience Investigator Awards](#). (For Early-Career PIs.) New York Stem Cell Foundation. Application due by February 21, 2018.

[Stem Cell Investigator Awards](#). (For Early-Career PIs.) New York Stem Cell Foundation. Application due by February 21, 2018.

March 2018

[MDA Venture Philanthropy Program](#). Muscular Dystrophy Association. LOI due by March 1, 2018.

[Health and Social Care for Neurodegenerative Diseases 2018](#). JPND. Pre-Proposals due by March 6, 2018.

April 2018

[Research Grants](#). Potential ALS Therapies: Preclinical to Phase 1. Fight MND. Application due by April 1, 2018.

NEW! [Rapid Response: Canada](#). FTD. Weston Brain Institute. LOIs due by April 19, 2018.

NEW! [Rapid Response: Ireland, Netherlands, UK 2018](#). Biomarkers, including FTD. Weston Brain Institute. LOIs due by April 23, 2018.

[Graduate Student Fellowship](#). AFM-Téléthon. Application due by April 24, 2018.

Check out our [updated list](#) of grants and awards.

Job Opportunities:

[Chair, Department of Translational Neurosciences](#). University of Arizona Phoenix, AZ
[Professor, Senior Lecturer, Stem Cell Neurobiology](#). University of Sheffield. Sheffield, England
[Professor, Senior Lecturer, Neuropharmacology](#). University of Sheffield. Sheffield, England
[Professor, Senior Lecturer, Neurogenetics](#). University of Sheffield. Sheffield, England
[Professor, Senior Lecturer, Neuroinflammation](#). University of Sheffield. Sheffield, England
[Assistant or Associate Professor](#). Medical College of Georgia. Augusta, GA
[Neurologist](#). UT Southwestern Medical Center. Dallas, TX
[Postdoctoral Fellow, Ferraiuolo Lab](#). University of Sheffield. Sheffield, England
[Postdoctoral Fellow, Sun Lab](#). Johns Hopkins University. Baltimore, MD
[Assistant, Associate, Full Professor, Neurobiology](#). University of Tennessee. Memphis, TN
[Graduate Studentship, Charlet-Berquerand Lab](#). IGBMC. Illkirch-Graffenstaden, France

[Research Associate, Neuromuscular Group](#). CRISPR Therapeutics. Cambridge, MA

Hiring someone onto your team? Contact us to add your listing to [our updated job board](#): ALSjobs@prize4life.org.

[Full List of Job Opportunities >>](#)

Upcoming Meetings:

Attending [FENS 2018](#) in Berlin, Germany this July? Abstracts are due February 13, 2018.

March 2018

March 11-14, 2018. Arlington, VA. [MDA Clinical Conference](#).

March 18-21, 2018. EMBL. Heidelberg, Germany. [Microglia 2018](#). Abstracts due: **February 15, 2018**.

March 22-24, 2018. Melbourne, Australia. [Australasian Motor Neurone Disease Symposium](#).

April 2018

April 17-21, 2018. Cold Spring Harbor Laboratory. Cold Spring Harbor, NY. [Protein Homeostasis in Health and Disease](#) .

April 21-27, 2018. Los Angeles, CA. [Annual Meeting of the American Academy of Neurology](#).

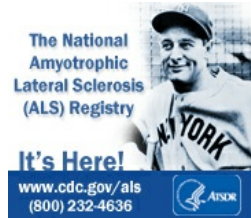
April 30-May 4, 2018. Jackson Laboratory. Bar Harbor, ME. Workshop: [Using Mouse Models to Study Neurodegenerative Disease](#).

May 2018

April 17-21, 2018. Cold Spring Harbor Laboratory. Cold Spring Harbor, NY. [Cellular Mechanisms Driven by Liquid Phase Separation](#). Abstracts due: **February 14, 2018**.

Organizing an ALS meeting? Contact us to add your conference to [our updated calendar](#): ALSmeetings@prize4life.org.

[Full List of Upcoming Meetings>>](#)



[Download the Working
with ALS Mice Manual
Here](#)

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