



ALS Research Forum e-Newsletter Vol. 174

June 6, 2017

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Conference News

[Protein Liquid-Liquid Phase Transitions: The Science Is About to Gel](#)

A new strategy, unveiled at "Phase Transitions In Disease" in Belgium, aims to treat neurodegenerative diseases including ALS by driving mislocalized RNA-binding proteins such as TDP-43 and FUS back into the nucleus of motor neurons.

Research News

[Certain Cancer Drugs Held Out as Prospects for ALS Therapy](#)

A key cancer therapeutic strategy may be of benefit to ALS according to a study published on May 24 in *Science Translational Medicine*. The study, led by Kyoto University's **Haruhisa Inoue** in Japan, found that blocking Src/c-Abl signaling with the FDA-approved leukemia drug bosutinib protected patient-derived motor neurons *in vitro* in part, by promoting autophagy. The results build on previous work from Nagoya University's **Gen Sobue** in Japan, which found that treatment with the Src/c-Abl kinase inhibitor dasatinib improved motor function and moderately extended the survival of a mouse model of SOD1 ALS. The study is one of a growing number that aims to use high-throughput screening approaches to identify and repurpose existing medicines that may be of benefit to people with the disease.

[Emerging EphA4 Nanobodies Aim to Facilitate Axon Regrowth in ALS](#)

EphA4 is emerging as a key obstacle blocking the regeneration of axons damaged by neurological diseases including ALS. But developing a therapeutic strategy that reduces the signaling of this receptor tyrosine kinase has proved challenging. Now, a research team led by VIB's Wim Robberecht in Belgium, introduce highly potent nanobodies that block ephA4 activation *in vitro*. These single-domain antibodies, generated in alpacas and llamas, are emerging as a key alternative to conventional therapeutic antibodies due to their increased thermostability, improved tissue distribution, reduced immunogenicity and at least in some cases, the ability to enter the central nervous system including the brain. The study is published on May 19 in the *Journal of Biological Chemistry*.

[A New Strategy Sets Sail In Hopes to Stabilize NMJs in ALS](#)

An emerging gene therapy may help muscle fibers and motor neurons stay connected according to a study published on May 10 in *Human Molecular Genetics*. The study, led by University of Tokyo's **Yuji Yamanishi** in Japan, found that upregulation of DOK7, which activates MuSK, in part, improves motor function in a mouse model of ALS by reducing denervation and muscle atrophy. The study builds on previous studies led by New York University School of Medicine's **Steven Burden** which found that increasing MuSK activity improved motor function in a mouse model of SOD1 ALS. The strategy is one of at least two being developed in hopes to stabilize neuromuscular junctions (NMJs) in people with the disease.

[Read more](#) to learn about the emerging NMJ stabilizer biglycan, soon to be tested at the preclinical stage for ALS.

[Not Just for Proteins-Expanded RNA Repeats Form Gels, Too](#)

Clumps of C9orf72 expanded repeat RNAs may contribute to the most common form of ALS. But how these RNA foci form remains unknown. Now, a research team led by University of California's **Ron Vale** in San Francisco, report that RNAs containing at least 16 G4C2 repeats undergo a phase transition into a gel-like state, which leads to foci formation. The results provide new insight into how foci may form in people with C9orf72 ALS and how this process may be targeted therapeutically. The study is published on May 31 in *Nature*.

[TREM2 Crucial for Microglial Activation](#)

Variants in TREM2 increase the risk of developing neurodegenerative diseases including ALS. But the reason why reducing its function in microglia contributes to these diseases remains hotly debated. Now, a research team led by German Center for Neurodegenerative Diseases' **Christian Haass** in Munich report that TREM2 is required, upon neural injury, to resolve neuroinflammation and remove debris. The findings add to growing evidence that TREM2 may protect neurons in the brain and spinal cord and that reducing its levels may contribute to neurodegenerative disease. The findings appeared last month in *EMBO Journal* and *EMBO Reports*.

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

Funding Opportunities:

June 2017

[ALSRP Therapeutic Development Award](#). US Department of Defense CDMRP. Application due by **June 9, 2017**.

[ALSRP Therapeutic Idea Award](#). US Department of Defense CDMRP. Application due by **June 9, 2017**.

[Next Generation Leaders](#). Allen Brain Institute. Application due by **June 9, 2017**.

July 2017

[Research and Trampoline Grants](#). AFM-Téléthon. Applicants outside France are encouraged to collaborate with a lab located in France. Application due by July 4, 2017.

[Rapid Response 2017](#). Weston Brain Institute. High-risk high reward translational research. FTD. Canada only. July 5, 2017.

[Accelerating Drug Discovery for FTD](#). Alzheimer's Drug Discovery Foundation and the Association of Frontotemporal Dementia. LOI due by July 31, 2017.

August 2017

[Judith and Jean Pape Adams ALS Research Grants](#). Judith and Jean Pape Adams Foundation. Application due by August 4, 2017.

[The Betty Laidlaw MND Research Prize](#). MND Australia. Applications due August 25, 2017.

[MND Research Grants](#). MND Australia. Applications due August 25, 2017.

[Postdoctoral Fellowships](#). MND Australia. Applications due August 25, 2017.

September 2017

[MDA Venture Philanthropy Program](#). Muscular Dystrophy Association. LOI due by September 1, 2017.

[Research Grants](#). Frick Foundation for ALS Research. Application due by September 30, 2017.

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

Job Opportunities:

[Chair, Department of Neuroscience](#). University of Connecticut School of Medicine. Farmington, CT.
[Senior Research Investigator, Translational Research](#). University of Pennsylvania. Philadelphia, PA.
[Postdoctoral Fellow, Neurodegeneration](#). King's College London. London, England.
[Postdoctoral Fellow, Mueller Lab](#). University of Massachusetts Medical School. Worcester, MA.
[Lab Technician, Grinberg Lab](#). University of California. San Francisco, CA.

[Electrophysiologist](#). Novartis Pharma AG. Basel, Switzerland.
[Neurobiology Research Associate II](#). Verge Genomics. San Francisco, CA.
[Scientist, Neurological Rare Disease](#). Sanofi. Framingham, 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:

Registration is now open for the [2017 NEALS meeting](#) in Clearwater Beach, Florida. Abstracts due: August 4th.

June 2017

June 14-17, 2017. EMBL Heidelberg, Germany. [EMBO-EMBL Symposium: Mechanisms of Neurodegeneration](#).

June 19-23, 2017. Keystone, Colorado. [Keystone Symposium: Neuroinflammation: Concepts, Characteristics, Consequences](#).

June 24-27, 2017. Amsterdam, Netherlands. [3rd Congress of the European Academy of Neurology](#).

June 26-27, 2017. Buckinghamshire, England. [Meeting the Challenges of Modelling Neurodegenerative Disease in Mice](#).

July 2017

July 8-11, 2017. Edinburgh, Scotland. [European Meeting on Glial Cells in Health and Disease](#).

July 23-28, 2017. Stowe, Vermont. [Gordon Research Conference on Amyotrophic Lateral Sclerosis \(ALS\) and Related Motor Neuron Diseases](#). Abstracts due: June 25, 2017.

September 2017

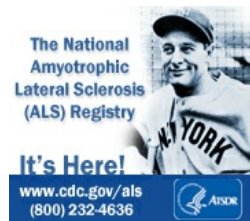
September 7-9, 2017. Ottawa, Canada. [Ottawa International Conference on Neuromuscular Disease and Biology](#). Abstracts due: July 15.

September 16-21, 2017. Kyoto, Japan. [World Congress on Neurology](#). **Early registration: June 15.**

September 17-19, 2017. Sitges, Spain. [Neuro-Immune Axis: Reciprocal Regulation in Development, Health and Disease](#). **Abstracts due: June 9.**

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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