

BRAIN



Cover image: Memories are fragile and easily distorted, not like playing a tape recorder as Vladimir Nabokov realized in *Speak, Memory* discussed in the Editorial on cognitive reserve and brain resilience to ageing Pp. 1927–1928.

Illustration: A3pfamily/Shutterstock.com

Contents

Editorial

- Speak, memory: on cognitive reserve and brain resilience**
M. Husain
1927

Essay

- Phantom limb pain: thinking outside the (mirror) box**
T. R. Makin
1929

Scientific Commentaries

- Building a theoretical foundation for cognitive rehabilitation**
J. Whyte and L. S. Turkstra
1933
- Hate mail: how reactive microglia spread aggregated α -synuclein**
E. Tedford
1936
- A new HCN1 channelopathy: implications for epilepsy**
M. M. Shah
1939
- Distinct cardiac-locked brain pulsations in Alzheimer's disease**
S. M. Bailes and L. D. Lewis
1941

Special Commentary

The neuroinflammation collection: a vision for expanding neuro-immune crosstalk in Brain
S. R. Irani, A. Nath and F. Zipp
e59

Review Articles

Dissecting autism and schizophrenia through neuroimaging genomics
C. A. Moreau, A. Raznahan, P. Bellec, M. Chakravarty, P. M. Thompson and S. Jacquemont
1943

The extracellular matrix as modifier of neuroinflammation and remyelination in multiple sclerosis
S. Ghorbani and V. W. Yong
1958

Update

Deep grey matter injury in multiple sclerosis: a NAIMS consensus statement
D. Ontaneda, P. C. Raza, K. R. Mahajan, D. L. Arnold, M. G. Dwyer, S. A. Gauthier, D. N. Greve, D. M. Harrison, R. G. Henry, D. K. B. Li, C. Mainero, W. Moore, S. Narayanan, J. Oh, R. Patel, D. Pelletier, A. Rauscher, W. D. Rooney, N. L. Sicotte, R. Tam, D. S. Reich and C. J. Azevedo on behalf of the North American Imaging in Multiple Sclerosis Cooperative (NAIMS)
1974

Report

Aberrant cytoplasmic intron retention is a blueprint for RNA binding protein mislocalization in VCP-related amyotrophic lateral sclerosis
G. E. Tyzack, J. Neeves, H. Crerar, P. Klein, O. Ziff, D. M. Taha, R. Luisier, N. M. Luscombe and R. Patani
1985

Clinical Trial

A randomized clinical trial of plasticity-based cognitive training in mild traumatic brain injury
H. W. Mahncke, J. DeGutis, H. Levin, M. R. Newsome, M. D. Bell, C. Grills, L. M. French, K. W. Sullivan, S.-J. Kim, A. Rose, C. Stasio and M. M. Merzenich
1994

Original Articles

Huntington's disease-specific mis-splicing unveils key effector genes and altered splicing factors
A. Elorza, Y. Márquez, J. R. Cabrera, J. L. Sánchez-Trincado, M. Santos-Galindo, I. H. Hernández, S. Picó, J. I. Díaz-Hernández, R. García-Escudero, M. Irimia and J. J. Lucas
2009

Reactive microglia enhance the transmission of exosomal α -synuclein via toll-like receptor 2
Y. Xia, G. Zhang, L. Kou, S. Yin, C. Han, J. Hu, F. Wan, Y. Sun, J. Wu, Y. Li, J. Huang, N. Xiong, Z. Zhang and T. Wang
2024

The latitude gradient for multiple sclerosis prevalence is established in the early life course
C. E. Sabel, J. F. Pearson, D. F. Mason, E. Willoughby, D. A. Abernethy and B. V. Taylor
2038

CD4 T cells mediate brain inflammation and neurodegeneration in a mouse model of Parkinson's disease
G. P. Williams, A. M. Schonhoff, A. Jurkuvenaite, N. J. Gallups, D. G. Standaert and A. S. Harms
2047

Cation leak underlies neuronal excitability in an HCN1 developmental and epileptic encephalopathy
L. E. Bleakley, C. E. McKenzie, M. S. Soh, I. C. Forster, P. Pinares-Garcia, A. Sedo, A. Kathirvel, L. Churilov, N. Jancovski, S. Maljevic, S. F. Berkovic, I. E. Scheffer, S. Petrou, B. Santoro and C. A. Reid
2060

Activation of the basal ganglia and indirect pathway neurons during frontal lobe seizures
A. Brodovskaya, S. Shiono and J. Kapur
2074

CACNA1I gain-of-function mutations differentially affect channel gating and cause neurodevelopmental disorders
Y. El Ghaleb, P. E. Schneeberger, M. L. Fernández-Quintero, S. M. Geisler, S. Pelizzari, A. M. Polstra, J. M. van Hagen, J. Denecke, M. Campiglio, K. R. Liedl, C. A. Stevens, R. E. Person, S. Rentas, E. D. Marsh, L. K. Conlin, P. Tuluc, K. Kutsche and B. E. Flucher
2092

The structural connectome and motor recovery after stroke: predicting natural recovery
P. J. Koch, C.-H. Park, G. Girard, E. Beanato, P. Egger, G. G. Evangelista, J. Lee, M. J. Wessel, T. Morishita, G. Koch, J.-P. Thiran, A. G. Guggisberg, C. Rosso, Y.-H. Kim and F. C. Hummel
2107

A Bayesian optimization approach for rapidly mapping residual network function in stroke
R. Lorenz, M. Johal, F. Dick, A. Hampshire, R. Leech and F. Geranmayeh
2120

GABAergic cortical network physiology in frontotemporal lobar degeneration
N. E. Adams, L. E. Hughes, M. A. Rouse, H. N. Phillips, A. D. Shaw, A. G. Murley, T. E. Cope, W. R. Bevan-Jones, L. Passamonti, D. Street, N. Holland, D. Nesbitt, K. Friston and J. B. Rowe
2135

Innate immunity stimulation via CpG oligodeoxynucleotides ameliorates Alzheimer's disease pathology in aged squirrel monkeys
A. G. Patel, P. N. Nehete, S. R. Krivoshik, X. Pei, E. L. Cho, B. P. Nehete, M. D. Ramani, Y. Shao, L. E. Williams, T. Wisniewski and H. Scholtzova
2146

To what degree is late life cognitive decline driven by age-related neuropathologies?
P. A. Boyle, T. Wang, L. Yu, R. S. Wilson, R. Dawe, K. Arfanakis, J. A. Schneider and D. A. Bennett
2166

Segregation of functional networks is associated with cognitive resilience in Alzheimer's disease
M. Ewers, Y. Luan, L. Frontzkowski, J. Neitzel, A. Rubinski, M. Dichgans, J. Hassenstab, B. A. Gordon, J. P. Chhatwal, J. Levin, P. Schofield, T. L. S. Benzinger, J. C. Morris, A. Goate, C. M. Karch, A. M. Fagan, E. McDade, R. Allegri, S. Berman, H. Chui, C. Cruchaga, M. Farlow, N. Graff-Radford, M. Jucker, J.-H. Lee, R. N. Martins, H. Mori, R. Perrin, C. Xiong, M. Rossor, N. C. Fox, A. O'Connor, S. Salloway, A. Danek, K. Buerger, R. J. Bateman, C. Habeck, Y. Stern and N. Franzmeier for the Alzheimer's Disease Neuroimaging Initiative and the Dominantly Inherited Alzheimer Network
2176

Comorbid neuropathological diagnoses in early versus late-onset Alzheimer's disease
S. Spina, R. La Joie, C. Petersen, A. L. Nolan, D. Cuevas, C. Cosme, M. Hepker, J.-H. Hwang, Z. A. Miller, E. J. Huang, A. M. Karydas, H. Grant, A. L. Boxer, M. L. Gorno-Tempini, H. J. Rosen, J. H. Kramer, B. L. Miller, W. W. Seeley, G. D. Rabinovici and L. T. Grinberg
2186

The Developing Human Connectome Project: typical and disrupted perinatal functional connectivity
M. Eyre, S. P. Fitzgibbon, J. Ciarrustá, L. Cordero-Grande, A. N. Price, T. Poppe, A. Schuh, E. Hughes, C. O'Keeffe, J. Brandon, D. Cromb, K. Vecchianti, J. Andersson, E. P. Duff, S. J. Counsell, S. M. Smith, D. Rueckert, J. V. Hajnal, T. Arichi, J. O'Muircheartaigh, D. Batalle and A. D. Edwards
2199

Cardiovascular brain impulses in Alzheimer's disease
Z. Rajna, H. Mattila, N. Huotari, T. Tuovinen, J. Krüger, S. C. Holst, V. Korhonen, A. M. Remes, T. Seppänen, J. Hennig, M. Nedergaard and V. Kiviniemi
2214

Letters to the Editor

Broca's area: why was neurosurgery neglected for so long when seeking to re-establish the scientific truth?
E. Mandonnet and H. Duffau
e60

Where is the speech production area? Evidence from direct cortical electrical stimulation mapping
Z. Zhao, Y. Liu, J. Zhang, J. Lu and J. Wu
e61

Reply: Broca's area: why was neurosurgery neglected for so long when seeking to re-establish the scientific truth? and Where is the speech production area? Evidence from direct cortical electrical stimulation mapping
D. L. Lorca-Puls, A. Gajardo-Vidal, D. W. Green and C. J. Price
e62

Errata
e63