

News, Literature, and Events in Braingenethics

[View this email in your browser](#)

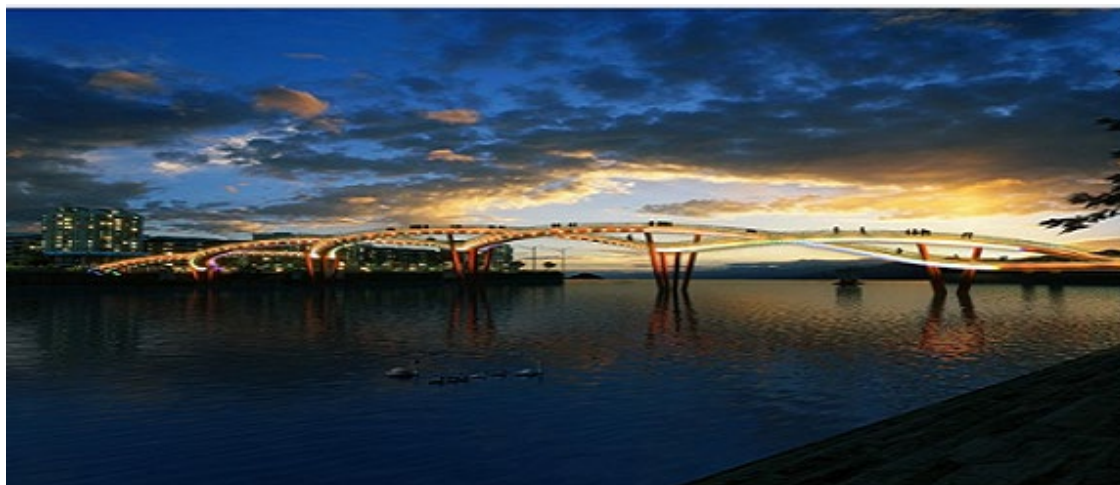


Braingenethics Update

Vol. 5, No. 3

April 2018

braingenethics.cumc.columbia.edu/



In the Literature

[Alerting Relatives about Heritable Risks: The Limits of Confidentiality](#)

Anneke Lucassen and Roy Gilbar

A case currently in English courts asks whether there situations when sharing a patient's genetic information with relatives without consent is acceptable, and whether clinicians have a legal duty to inform patients of their genetic risk information.

[What Features of Stigma Do the Public Most Commonly Attribute to Alzheimer's Disease Dementia?](#)

Shana D. Stites

Understanding the prevalence of beliefs, attitudes, and expectations about Alzheimer's disease dementia in the public could inform strategies to mitigate

In the Media

[Diagnosing Autism in Newborns: The 'Wave' of the Future?](#)

Andrew Wilner

Dr. Andrew Wilner interviews Oren Miron, a research associate in biomedical informatics at Harvard University, about his development of a tool for the early detection of autism.

[The Cliff: This Is What Happens When Young Adults with Autism Turn Twenty-One](#)

Shannon Wray

After high school, many young adults with autism fall into a hole in the social net.

stigma. This survey found significant proportions of the US general public to believe that an Alzheimer's disease diagnosis would result in employer and/ or medical discrimination.

[Predictive Psychiatric Genetic Testing in Minors: An Exploration of the Non-Medical Benefits](#)

Arianna Manzini et al.

Predictive genetic testing for susceptibility to psychiatric conditions is likely to become part of standard practice. This paper outlines the potential non-medical benefits and harms of psychiatric genetic testing in minors in order to consider whether the non-medical benefits could ever make such testing appropriate.

Genomics, Race, and Intelligence

[Stop Talking About Race and IQ](#)

William Saletan

A scientist reflects on his own errors, and the clarity needed to advance conversations about the genetics of race and intelligence.

[What Happens When Geneticists Talk Sloppily About Race](#)

Ian Holmes

Synthesizing an ongoing conversation about race and genetics, Holmes writes 'the field widely agrees that race is a social construct, but gets into trouble when it ignores semantics.'

[How Not To Talk about Race and Genetics](#)

Signatories on Letter

67 scientists and researchers published an open letter to in response to David Reich's newly

[Pioneering Alzheimer's Study in Colombia zeroes in on Enigmatic Protein](#)

Sara Reardon

Researchers tracking a genetic mutation that causes an early-onset form of the disease hope to uncover new drug targets.

[Scientists Are Thinking the Unthinkable: CRISPR Might One Day Reverse Devastating Brain Diseases](#)

Sharon Begley

Severe neurological disorders might one day be reversed with genome editing technologies such as CRISPR, which would repair disease-causing mutations and unleash the brain's neuroplasticity to weave new circuitry or grow new neurons.

[Engineering a Cure](#)

David Baltimore

Baltimore talks about the hazards of using CRISPR to augment human capabilities.

[Interested in Responsible Gene Editing? Join the \(New\) Club](#)

Martin Enserink

The new Association for Responsible Research and Innovation in Genome Editing isn't just for scientists, but also for patient advocates, environmental groups, industry, and funders. In a separate effort, Sheila Jasanoff and J. Benjamin Hurlbut call for [A Global Observatory for Gene Editing](#).

[A Woman Says an Ancestry.com DNA Test Revealed Her Father — Her Parents' Fertility Doctor](#)

Lindsey Bever

published book and [article](#) in the New York Times, stating that his understanding of race is seriously flawed, and that science and the categories it constructs do not operate in a political vacuum.

[There's No Scientific Basis for Race - It's a Made-Up Label](#)

Elizabeth Kolbert

Race has been used to define and separate people for millennia. But the concept of race is not grounded in genetics. DNA reveals what skin color obscures: we all have African ancestors.

- This story is part of [The Race Issue](#), a special issue of National Geographic.

[The Sam Harris-Ezra Klein Debate](#)

Following a [controversial interview](#) between Sam Harris and Charles Murray, Harris and Ezra Klein debate race, IQ, genetics, identity politics, and more.

[DNA Tests for IQ are Coming. But It Might Not Be Smart to Take One](#)

Antonio Regalado

A [January paper](#) by Robert Plomin stated that studies linking genes to performance on IQ tests mean we can now read the DNA of a young child and get a notion of how intelligent they will be, and that parents will use direct-to-consumer (DTC) tests to drive "precision education." While these tests are not highly accurate, some DTC companies have begun testing for "genetic IQ."

[The IQ Trap: How the New Genetics Could Transform Education](#)

Philip Ball

When she took the test, Kelli Rowlette was not aware that her mother had undergone artificial insemination, or that her mother's doctor had allegedly used his own sperm.

[The Long Search for the Pain Gene](#)

Tor Wager

Wager reviews *Chasing Men on Fire: The Story of the Search for a Pain Gene* by Stephen G. Waxman, out now from MIT Press.

[Divided by DNA: The Uneasy Relationship between Archaeology and Ancient Genomics](#)

Ewen Callaway

Two fields in the midst of a technological revolution are struggling to reconcile their views of the past.



[Consumers Don't Need Experts to Interpret 23andMe Genetic Risk Reports](#)

Anne Wojcicki

The CEO of 23andMe addresses criticism surrounding her company's recently approved direct-to-consumer tests for BRCA1 and 2

The study of the genes which affect intelligence could revolutionise education. But, haunted by the spectre of eugenics, the science risks being lost in a political battle.

[Genetic Influence in Social Outcomes During and After the Soviet Era in Estonia](#)

Kaili Rimfield et al.

The etiology of individual differences in educational attainment and occupational status includes genetic as well as environmental factors. DNA differences explain twice as much such variation in the post-soviet vs. soviet era in Estonia, demonstrating a change in the extent of genetic influence following a massive and abrupt social change.

[NIA-AA Research Framework: Toward a Biological Definition of Alzheimer's Disease](#)

Clifford R. Jack. Jr. et al.

In 2011, the National Institute on Aging and Alzheimer's Association created separate diagnostic recommendations for the preclinical, mild cognitive impairment, and dementia stages of Alzheimer's disease. Scientific progress in the interim led to an initiative by the National Institute on Aging and Alzheimer's Association to update and unify the 2011 guidelines. This unifying update is labeled a "research framework" because its intended use is for observational and interventional research, not routine clinical care.

[Adeno-Associated Viral Vector \(Serotype 2\)-Nerve Growth Factor for Patients With Alzheimer Disease](#)

Michael Rafii et al.

Nerve growth factor (NGF) is an endogenous neurotrophic factor that

genes. She writes that people do not need to be experts to handle genetic health risk information, and that direct-to-consumer testing makes genetic testing affordable and accessible for consumers.

- See this recent [study](#) in Genetics in Medicine finding false positives, misinterpretations and other inaccuracies in 40% of DTC genetic testing results.

- See this recent [paper](#) by **Steven Katz et al.**, which finds that less than one half (43.5%) of patients surveyed with clinical indications received formal genetic counseling.

More In the Literature

[Systematic Reconstruction of Autism Biology from Massive Genetic Mutation Profiles](#)

Weijun Luo

This study seeks to address the lack of a coherent and systematic understanding of autism biology, defining a catalog of novel autism spectrum disorder (ASD) risk factors including 118 variants and 72 genes, as well as new disease pathways.

[Elevated Polygenic Burden for Autism is Associated with Differential DNA Methylation at Birth](#)

Ellis Hannon et al.

This study aimed to integrate genetic and epigenetic variation and identify DNA methylation biomarkers of autism spectrum disorder (ASD) detectable at birth. It did not identify specific loci showing robust differences in neonatal DNA methylation associated with later ASD, but did find a significant association between increased polygenic burden for autism and methylomic variation at

prevents the death and augments the functional state of a neuron population that undergoes extensive degeneration in Alzheimer disease (AD). This multicenter phase 2 trial found that intracerebral gene therapy with an adeno-associated viral vector NGF was well-tolerated in patients with AD, but did not affect clinical outcomes or selected AD biomarkers.

[Finding a Treatment for ALS – Will Gene Editing Cut It?](#)

Ammar Al-Chalabi et al.

A key challenge in human medical genetics is developing the ability to suppress the expression of mutant genes that cause disease that are transmitted as dominant traits. A study recently reported by Gaj et al. used the CRISPR-Cas9 complex to diminish levels of a mutant SOD1 enzyme in a mouse model of amyotrophic lateral sclerosis (the mouse was transgenic for mutated human SOD1 gene) and found delayed disease onset and improved survival.

[Selective Genetic Overlap between Amyotrophic Lateral Sclerosis and Diseases of the Frontotemporal Dementia Spectrum](#)

Celeste Karch et al.

This study looked for genome-wide genetic risk factors for amyotrophic lateral sclerosis (ALS) shared with other neurodegenerative diseases. It identified selective genetic overlap between ALS and neurodegenerative diseases within the frontotemporal dementia spectrum, suggesting that MAPT and BNIP1 influence ALS pathogenesis.

specific loci.

[Transcriptome-Wide Association Study of Schizophrenia and Chromatin Activity Yields Mechanistic Disease Insights](#)

Alexander Gusev et al.

Genome-wide association studies (GWAS) have identified over 100 risk loci for schizophrenia, but the causal mechanisms remain largely unknown. This study attempted to identify the molecular mechanisms driving those associations, finding variants that appear to contribute to increased schizophrenia risk. The study's large-scale connection of associations to target genes, tissues, and regulatory features moves toward a mechanistic understanding of GWAS.

[Consanguineous Marriage and the Psychopathology of Progeny](#)

Aideen Maguire et al.

Examining a cohort of 363,960 participants, this study finds that children of first-cousin consanguineous parents are more than 3 times as likely to receive medications for common mood disorders and more than twice as likely to receive medications for psychosis compared with children of nonrelated parents.

[The Key Role of Epigenetics in Human Disease Prevention and Mitigation](#)

Andrew P. Feinberg

Epigenetics is the regulation of gene expression through alterations in DNA or associated factors (other than the DNA sequence). These factors control the diverse manifestations of diseases. Insights into epigenetic modification may lead to new therapies for common diseases.



Looking for the Psychosocial Impacts of Genomic Information

Watch the archive from our February conference here.



Share



Tweet



Forward



+1

Click [here](#) to subscribe to our Braingenetics Update newsletter.



COLUMBIA UNIVERSITY
MEDICAL CENTER



The Hastings Center

Copyright © 2017 Center for Excellence in Ethical, Legal, and Social Implications of Psychiatric, Neurologic, and Behavioral Genetics, All rights reserved.

Our mailing address is:

The Hastings Center
21 Malcolm Gordon Rd.
Garrison, NY 10524

[unsubscribe from this list](#) [update subscription preferences](#)

This email was sent to [*|EMAIL|*](#)
[why did I get this?](#) [unsubscribe from this list](#) [update subscription preferences](#)

|LIST:ADDRESSLINE|

|REWARDSI|