

News, Literature, and Events in Braingenethics

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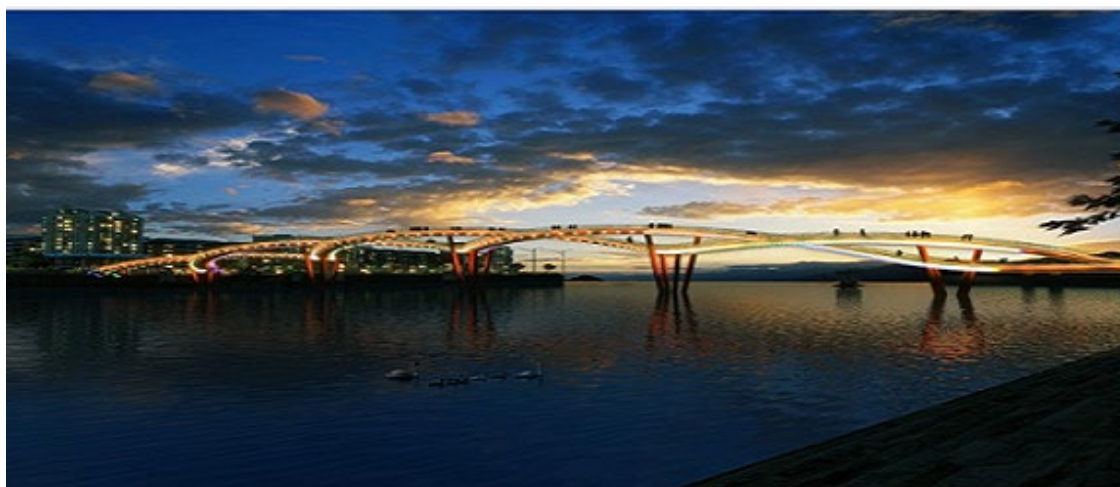


Braingenethics Update

Vol. 4, No. 6

July 2017

braingenethics.cumc.columbia.edu/



The next Braingenethics Update (Vol. 4, No. 7) will appear in September 2017.

In the Media

[The Consequences of Sequencing Healthy People](#)

Aggie Mika

The first randomized trial to examine whole-genome sequencing in healthy people uncovers disease-causing genetic variants, but the overall benefits to this population are ambiguous.

[Scientists Push Back against Booming Genetic Pseudoscience Market](#)

Kristen V. Brown

Amidst a booming cottage industry

In the Literature

[The Legal Implications of Detecting Alzheimer's Disease Earlier](#)

Joshua Preston et al.

Early detection of Alzheimer's disease (AD) raises a number of challenging legal questions. This essay discusses these questions and suggests that multidisciplinary perspectives are needed to ensure that legal responses are swift, efficient, and equitable.

[Brains, Environments, and Policy Responses to Addiction](#)

Keith Humphreys et al.

Research on the brain and its interactions

of unscientific consumer genetic tests, scientists have begun to speak out.

[Stress and Poverty May Explain High Rates of Dementia in African-Americans](#)

Jon Hamilton

Harsh life experiences, rather than genetic influences, appear to leave African-Americans vulnerable to Alzheimer's Disease and other forms of dementia.

[Twin Tots Reveal Autism Traits Arise Mostly From Genes](#)

Ciara Curtin

According to a study of nearly 39,000 twins, genes are bigger contributors to autism features than are environmental factors.

[Researchers Uncover Genetic Gains and Losses in Tourette Syndrome](#)

NIH News

Researchers have identified structural changes in two genes that increase the risk of developing Tourette syndrome.

[Genes' Composition Guides More-Optimal Diets](#)

Ruth Williams

Fruit flies and mice grow better and eat less when the amino acid balance of their food reflects that coded by their exomes.

[Study of How We Look at Faces May Offer Insight into Autism](#)

Pam Belluck

A facial recognition study suggests that people are born with neurological differences that affect how they develop socially.

[The Brave New World of Gene Editing](#)

Matthew Cobb

with the environment can help policymakers advance more effective policies on addiction. Yet, despite urgent challenges of opioid and other addiction in the United States and worldwide, basic and translational neuroscience research has only occasionally been applied in public policy.



[APOE-related Risk of Mild Cognitive Impairment and Dementia for Prevention Trials: An Analysis of Four Cohorts](#)

Jing Qian et al.

This study developed risk estimates among potential participants in the Generation Study, a prevention trial in individuals with APOE-e4/e4, as well as estimates for those with one or no copies of APOE-e4. Estimates of cognitive impairment and dementia were lower than those estimated in prior studies.

[The Contribution of Rare Variants to Risk of Schizophrenia in Individuals with and without Intellectual Disability](#)

Tarjinder Singh et al.

This meta-analysis found that individuals with schizophrenia carry a significant burden of rare, damaging variants in genes previously identified as having a near-complete depletion of loss-of-function variants. The findings suggest that rare, damaging variants contribute to

Three new books offer exciting perspectives from the frontiers of gene editing.

In the Literature, cont.

[Social Connectedness, Perceived Isolation, and Dementia: Does the Social Environment Moderate the Relationship between Genetic Risk and Cognitive Well-Being?](#)

Judith L. Poey et al.

This study's findings support the hypothesis that social environment moderates the relationship between the APOE e4 allele and cognitive functioning, and indicate a need for the development of policies and services that promote a rich social environment.

[The Protective Effect of Pregnancy on Risk for Drug Abuse: A Population, Co-Relative, Co-Spouse, and Within-Individual Analysis](#)

Kenneth S. Kendler et al.

Through multifaceted analyses, this study sought to determine whether pregnancy is an intrinsic motivator for cessation of drug abuse. Results indicated that risk for drug abuse in women is substantially reduced during pregnancy and the immediate postpartum period, with multiple analyses suggesting that this association is largely causal.

[Phenotypic Analysis of 303 Multiplex Families with Common Epilepsies](#)

The Epi4K Consortium

Analyzing a cohort with genetically diverse common epilepsies, researchers from the Epi4K Consortium identified detailed phenotypic information that will be important in the conditioning and interpretation of forthcoming sequencing data to understand the genetic architecture and inter-relationships of the

the risk of schizophrenia both with and without intellectual disability and support an overlap of genetic risk between schizophrenia and other neurodevelopmental disorders.

[Individual Differences in Executive Functions Are Almost Entirely Genetic in Origin](#)

Naomi P. Friedman et al.

Executive functions are correlated because they are influenced by a highly heritable (99%) common factor that goes beyond general intelligence or perceptual speed, and they are separable because of additional genetic influences unique to particular executive functions.

[Genome-wide Association Analysis of Insomnia Complaints Identifies Risk Genes and Genetic Overlap with Psychiatric and Metabolic Traits](#)

Anke R. Hammerschlag et al.

Employing a genome-wide association study and genome-wide gene-based association study, this paper identifies three loci and seven genes associated with insomnia complaints.

[Chromosomal Microarray Testing for Children With Unexplained Neurodevelopmental Disorders Lessons to Be Learned from 22q11.2 Syndromes](#)

Simon Vann Jones

Chromosomal microarray analysis (CMA) has now replaced G-banded karyotype analysis for clinical diagnostics, and will increase the diagnostic yield for children with neurodevelopmental disorders.



common epilepsy syndromes.

Upcoming Events

[NYU Nature Conference on Neurogenetics](#)

August 9-11, 2017

Kimmel Center for University Life, New York University, New York, NY, USA

This conference will facilitate interdisciplinary collaborations aimed at developing a more integrated understanding of how genes influence behavior, neuronal development and neurological disease.



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