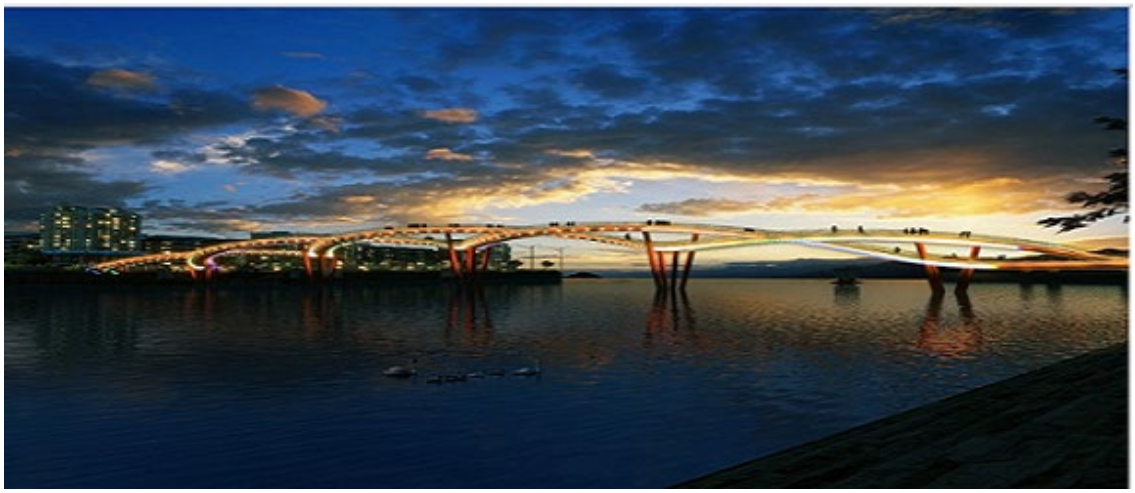
News, Literature, and Events in Braingenethics

View this email in your browser

Braingenethics Update

Vol. 3, No. 5
June 2016
braingenethics.cumc.columbia.edu/



In the Literature

Predictive Genetic Testing for Neurodegenerative Conditions: How Should Conflicting Interests Within Families be Managed?

Zornitza Stark et al.

Predictive genetic testing for a neurodegenerative condition in one individual in a family may have implications for other family members, because it can reveal their genetic status.The authors argue that while it may not be possible to completely avoid harm in these situations, it is important to consider the magnitude of risks and make every effort to limit the potential for adverse outcomes.

New Book:
The Neuroethics of Biomarkers: What the Development of Bioprediction Means for Moral Responsibility, Justice, and the Nature of Mental Disorder
Matthew L. Baum

In the Media

Social Mobility Genes Identified

Click here for the original study.

Although the link between genes and life outcomes is weak, it is supported by an analysis of data collected from almost 1,000 individuals over four decades, and remains even when accounting for social-class origins.

[Effect of Public Deliberation on Attitudes Toward Return of Secondary Results in Genomic Sequencing]

Michele C. Gornick et al.

This study suggests that education and deliberation enhance public appreciation of the scientific and ethical complexities of genome sequencing, which is important to the formation of ethical guidelines regarding secondary findings.

[Neuroscience in Forensic Psychiatry: From Responsibility to Dangerousness. Ethical and Legal Implications of Using Neuroscience for Dangerousness Assessments]

Georgia Martha Gkotsi and Jacques Gasser

This paper argues that the introduction of neuroscientific data by forensic experts into criminal trials will be mostly be used in the future as a means to evaluate or assess an offender's dangerousness, rather than responsibility.

[True Grit and Genetics: Predicting Academic Achievement From Personality]

Kaili Rimfeld, Yulia Kovas, Philip S. Dale, and Robert Plomin

Grit—perseverance and passion for long-term goals—has been shown to be a significant predictor of academic success, even after controlling for other personality factors. The authors conclude that the etiology of grit is highly similar to other personality traits, not only in terms of its substantial genetic influence but also in showing no influence of shared environmental factors.

[Genes Can Have up to 80% Influence on Students' Academic Performance]

Brian Byrne, Katrina Grasby, and Richard Olson

Remediation for students that takes gene-environment interactions into account - rather than assuming that genes are destiny - may allow genetic influences on academic performance to be translated into meaningful assistance.

[Opioids: Can a Genetic Test Identify an Addict in the Making?]

Kristine Fiore

Several companies want doctors to include genetic predisposition as one of the risk factors that doctors use to assess predisposition to opioid addiction, but geneticists suggest that the science might not be there yet.

['Silicon Valley Arrogance'? Google Misfires as it Strives to Turn Star Trek Fiction Into Reality]

Charles Piller

Google has tried - and so far failed - to create an analogue to Star Trek's "Tricorder" for use in cancer diagnosis.

[A Review of Vulnerability and Risks for Schizophrenia: Beyond the Two Hit Hypothesis.]

Justin Davis et al.

The development of schizophrenia is likely to be more complex and nuanced than the binary “two hit” (genetic predisposition combined with environmental factors) model originally proposed nearly 30 years ago. Risk appears influenced by a more complex process involving genetic risk interfacing with multiple potentially interacting factors.

[Brain White Matter Structure and COMT Gene are Linked to Second-Language Learning in Adults]

Ping Maimiya et al.

This study shows that genetic factors influence second-language learning in adults, and that grades in a language learning program are best predicted by measures of brain connectivity and COMT genotype.

[Physical and Neurobehavioral Determinants of Reproductive Onset and Success]

Felix Day et al.

The ages of puberty, first sexual intercourse, and first birth signify, respectively, the onset of reproductive ability, behavior, and success, and genetic factors influence the timing of those milestones.

[Mosaic Loss of Chromosome Y in Blood is Associated with Alzheimer Disease]

Jan P. Dumanski et al.

In order to shed light on the factors underlying the shorter life expectancy of men vs. women, the authors tested the hypothesis that the loss of chromosome Y in blood cells

In the Literature, Cont.

[Gene-Tailored Treatments for Brain Disorders: Challenges and Opportunities]

Giovanni Esposito et al.

The authors review different aspects of the challenges facing neuromedicine, give examples of where there are advances in genetic and genomic understanding, and highlight challenges to making personalized medicine for brain disorders a reality.

[Identification of C12orf4 as a Gene for Autosomal Recessive Intellectual Disability]

Anju Philips et al.

Genetic causes of intellectual disability remain unknown due to its vast heterogeneity. This study identifies a variant and a deletion in the C12orf4 gene on chromosome 12, which implicates that gene as a cause of autosomal recessive intellectual disability.

[The NLSY Kinship Links: Using the NLSY79 and NLSY-Children Data to Conduct Genetically Informed and Family-Oriented Research]

Joseph Lee Rodgers et al.

The National Longitudinal Survey of Youth (NLSY) datasets provide a unique and powerful source of information for behavioral genetic researchers, but until now much of the information required for biometrical modeling has been hidden. This paper provides details for research teams interested in using the NLSY data portfolio to conduct behavioral genetic (and other family-oriented) research.

would render men more susceptible to Alzheimer disease (AD), and found that such a loss is associated with risk of both AD and cancer.

[Neuroethics Activities under the NIH BRAIN Initiative]

A Neuroethics Workgroup will assist the NIH BRAIN Initiative in handling issues and problems involving ethics.

[Sociability Deficits and Altered Amygdala Circuits in Mice Lacking Pcdh10, An Autism Associated Gene]

Hannah Schoch et al.

Behavioral symptoms in individuals with autism spectrum disorder (ASD) have been attributed to abnormal neuronal connectivity, but the molecular bases of these behavioral and brain phenotypes are largely unknown. This investigation reveals genetically linked synaptic and behavioral deficits in mice, and establishes a novel genetic model for investigating neural circuitry and behavioral changes relevant to ASD.

Our mailing address is:
The Hastings Center
21 Malcolm Gordon Rd.
Garrison, NY 10524

|MC:SUBJECT|