News, Literature, and Events in Braingenethics

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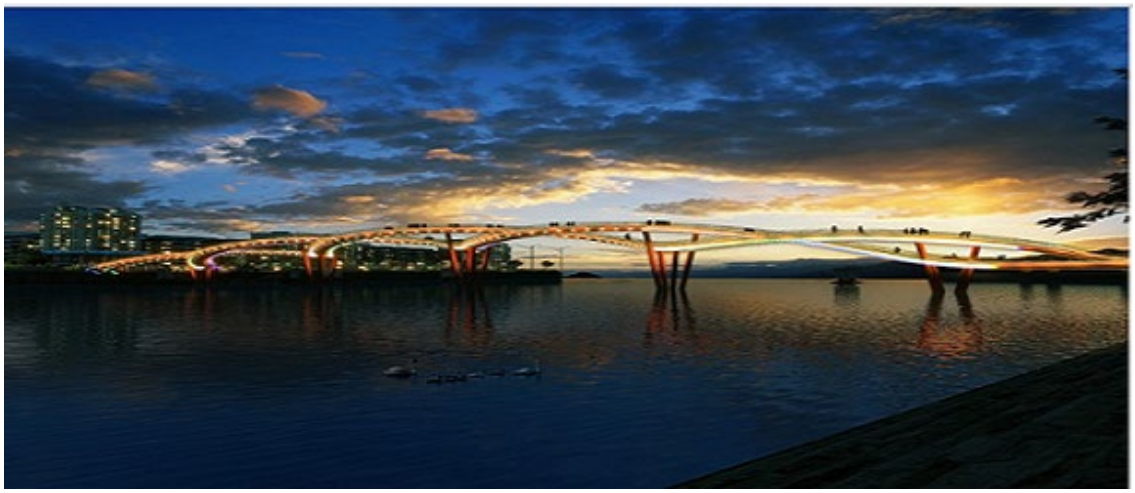

In the Literature

What Do Experimental Simulations Tell Us about the Effect of Neuro/Genetic Evidence on Jurors?

Nicholas Scurich

Experimental simulations of the effects of Neuro/Genetic evidence on the decision making of jurors need to be conducted with a high degree of ecological validity in order to be useful in understanding the effects of such evidence.

Lessons Learned from a Study of Genomics-Based Carrier Screening for Reproductive Decision Making

Benjamin S. Wilfond et al.

This study of genomics-based carrier screening, carried out between 2014 and 2017, reported limited patient or health system harms from expanded screening,

In the Media

'It's a Toxic Place.' How the Online World of White Nationalists Distorts Population Genetics

Michael Price

White nationalists use online forums, "alt-right" news websites and Twitter accounts to regularly host "informal journal clubs," dedicated to dissecting and misappropriating population genetics papers and sorting them into those that support a white nationalist ideology and those that don't.

Why Genetic IQ Differences between 'Races' Are Unlikely

Kevin Mitchell

The idea that intelligence can differ

and found that some patients valued the information they learned from the process. The paper suggests that policy discussions should consider the value of offering such expanded carrier screening in health delivery systems with limited resources.

[The Nature of Nurture: Using a Virtual-Parent Design to Test Parenting Effects on Children's Educational Attainment in Genotyped Families]

Timothy C. Bates et al.

This family-based model found that children's own educational attainment polygenic risk score (EA PRS) significantly predicted their educational attainment (EA). However, parental PRS predicted the socioeconomic status (SES) environments provided to the children, and parental SES and offspring EA were significantly associated, suggesting that EA polygenic risk scores are as linked to social competence as they are to EA.

[Polygenic Risk Scores, School Achievement and Risk for Schizophrenia: A Danish Population-based Study]

Holger J. Sørensen et al.

Studies have suggested that poor school achievement is associated with increased risk of schizophrenia; however, polygenic

between populations has made headlines again, but the rules of evolution make it implausible

[Black Achilles]

Tim Whitmarsh

The Greeks didn't have modern ideas of race. Did they see themselves as white, black – or as something else altogether?

[The DNA Data We Have Is Too White. Scientists Want to Fix That]

Sarah Elizabeth Richards

The vast majority of participants in worldwide genomics research are of European descent. This disparity could deter minorities from benefitting from precision medicine. Now, the "All of Us" initiative aims to collect data from at least 1 million people of all ages, races, sexual identities, income and education levels.

[Every Cell in Your Body Has the Same DNA. Except It Doesn't.]

Carl Zimmer

We are all mosaics, which means that even healthy people are more different from one another than scientists had previously imagined.

[The Ethics of Catching Criminals Using their Family's DNA]

Nature Editorial

A high-profile arrest in California shows how the long arm of the law can now extend into DNA databases to check for relatives.

[Genes, Environment and Schizophrenia: Is the Placenta the Missing Link?]

Sharon Salt

A recent study has identified that the

risk scores did not account for the observed link between the two in this study.

Genome-Wide Association Analyses Identify 44 Risk Variants and Refine the Genetic Architecture of Major Depression

Naomi R. Wray et al.

This genome-wide association meta-analysis identified 44 independent and significant loci for major depressive disorder (MDD). The genetic findings were associated with clinical features of major depression and implicated brain regions exhibiting anatomical differences in cases. The study found important relationships of genetic risk for MDD with educational attainment, body mass, and schizophrenia.

Developmental Disorders with Intellectual Disability Driven by Chromatin Dysregulation: Clinical Overlaps and Molecular Mechanisms

Larizza Lidia et al.

Advances in the analysis of genomic information from next-generation sequencing has accelerated the discovery of causative genes of developmental delay and intellectual disability disorders. Further deciphering of pathway interconnection of clinically similar intellectual disability syndromes may accelerate the discovery of therapeutic targets.

A Homozygous Loss-of-function Camk2a Mutation Causes Growth Delay, Frequent Seizures and Severe Intellectual Disability

Poh Hui Chia et al.

This study defines a recessive neurodevelopmental syndrome with global developmental delay, seizures, and intellectual disability that arises from a germline mutation in CAMK2A.

Genetic and Environmental Influences on Language Ability in Older Adults: Findings

placenta could play an imperative role in schizophrenia and possibly other neurodevelopmental disorders, including ADHD, autism and Tourettes syndrome.

Which Anti-Depressant Is Right for You? Your DNA Can Shed Some Light

Lucette Lagnado

Genomics is coming to psychiatry, with some doctors using a gene test to figure out the most effective anti-depressant for a patient.

Genetic Adaptation to Cold Brought Migraines with It

Viviane Callier

A study published in PLOS Genetics shows a genetic variant in a gene involved in sensing cold temperatures became more common when early humans migrated out of Africa into colder climates. The variant also carries a higher risk of getting migraines.

Routine DNA Screening Moves into Primary Care

Michelle Andrews

If you have a genetic mutation that increases your risk for a treatable medical condition, would you want to know? For many people the answer is yes. But typically such information has not been a part of routine primary care.

Source of Potential Bias Widespread in Large Genetic Studies

Diana Kwon

The Mendelian randomization technique, a new statistical method, finds that many genetic variants used to determine trait-disease relationships may have additional

from the Older Australian Twins Study
Teresa Lee et al.
Several types of language ability tests were performed on older australian twins, and multivariate analyses showed high genetic correlation for some, but not all, off the results.

A Longitudinal Imaging Genetics Study of Neuroanatomical Asymmetry in Alzheimer's Disease
Christian Wachinger et al.
The associations between SNPs in the genes TNKS and DLG2 and AD-related increases in shape asymmetry provide novel evidence about the biological underpinnings of brain asymmetry as a disease marker.

Estimation of Lifetime Risks of Alzheimer's Disease Dementia Using Biomarkers for Preclinical Disease
Ron Brookmeyer et al.
Most people with preclinical Alzheimer's disease (AD) will not develop AD dementia during their lifetimes. Lifetime risks, which vary by vary by age, gender and preclinical disease state, help interpret the clinical significance of biomarker screening tests for AD.

Recently Evolved Human-specific Methylated Regions Are Enriched in Schizophrenia Signals
Niladri Banerjee
One explanation for the persistence of schizophrenia despite the reduced fertility of patients is that it is a by-product of recent human evolution. Evidence from this study supports the hypothesis that genetic variants conferring risk of schizophrenia co-occur in genomic regions that have changed as the human species evolved.

An Analytical Framework for Whole-genome Sequence Association Studies and Its Implications for Autism Spectrum

effects that genome-wide association studies don't pick up.

More In the Literature

Paternally Inherited Cis-regulatory Structural Variants Are Associated with Autism
William M. Brandler et al.
This study investigated whether changes in noncoding regions of the genome are associated with autism. Children with ASD had inherited structural variants in noncoding regions from their father. Regulatory regions of some specific genes were disrupted among multiple families, supporting the idea that a component of autism risk involves inherited noncoding variation.

RNA from Trained Aplysia Can Induce an Epigenetic Engram for Long-term Sensitization in Untrained Aplysia
Alexis Bédécarrats et al.
This study demonstrates that the memory for long-term sensitization in the marine mollusk Aplysia can be successfully transferred by injecting RNA from sensitized into naïve animals. The results provide support for a nonsynaptic, epigenetic model of memory storage in Aplysia.

Clinical, Molecular Genetics and Therapeutic Aspects of Syndromic Obesity
Ellen Geets et al.
As many syndromic forms of obesity that

Disorder

Donna M. Werling et al.

Genomic association studies of common or rare protein-coding variation have established robust statistical approaches to account for multiple testing. Here, the authors present a comparable framework to evaluate rare and de novo noncoding single-nucleotide variants, insertion/deletions, and all classes of structural variation from whole-genome sequencing.

are mediated by one or more genes share symptoms, accurate diagnosis is a significant problem for clinicians. Differentiating all syndromic forms of obesity will help to eventually deliver accurate genetic counseling and treatment.

Looking for the Psychosocial Impacts of Genomic Information

Watch the archive from our February conference here.

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