

WEBINARS

Webinar: Brian O’Roak discusses the accelerating pace of autism genetics

BY CLAIRE CAMERON

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Here’s how O’Roak describes what he’ll discuss during the session:

Moving from candidate autism risk genes to validated ones has been tremendously difficult in

complex neurodevelopmental disorders such as autism. A large part of this difficulty is due to heterogeneity in the genes that lead to autism in different individuals. However, new approaches and strategies have begun to unlock autism's genetics.

In this webinar, I will review the recent developments that have led to tractable strategies for robustly implicating many individual genes, which, when mutated, raise a child's chances of having autism. I will discuss how these new high-confidence risk genes are informing the field's understanding of autism at the molecular level and beyond. Despite data supporting evidence for hundreds of distinct risk genes, many of these genes interact or are part of common pathways, suggesting some novel common mechanisms are at play. Importantly, several of these genes appear to be so-called master regulators, in that they control the function of other autism risk genes. Finally, I will discuss how research is moving into new areas such as studying somatic mutations — DNA changes that occur after conception — and changes to DNA regions that fall outside of genes. With these efforts and larger sets of research participants, the hope is to fully elucidate the spectrum of gene mechanisms underpinning autism.