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Chromatin Modifiers in Epilepsy and Autism: Bioinformatic Approaches to Problems in Neuroscience

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WHEN: Thursday, September 28, 2017
12:00 pm

WHERE: Room 2226
Veterinary Medicine Building

HOST: Dr. Thippeswamy

PIZZA SERVED!

Bioinformatics has revolutionized the way life sciences are studied. One has access to thousands of archived whole-genome datasets and computational power that was unimagined a decade ago. These resources can allow researchers to ask scientific questions in unbiased, open ways that can lead to surprising findings, which would not have been anticipated using conventional 'prior knowledge' based approaches. The Roopra lab has developed a novel tool that predicts those transcription factors and cofactors that most likely drive transcriptional changes observed in whole-transcriptome datasets. We call this tool Multiple Aligned Genomic Integration of ChIP (MAGIC). We will present data that demonstrates the utility of this approach in uncovering an unanticipated role for epigenetics in epilepsy and in Tuberous Sclerosis Complex (TSC), a condition characterized by a number of neurological phenotypes including seizures, cognitive impairment and autism.