The Genetics & Genome Biology Program proudly presents

Penetrance, Pleiotropy and Psychiatry

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Time: 9AM

Place: Daniels Hollywood Theatre

Rm 1246 Black Wing, 555 University Ave



The increasing resolution of examining the human genome, paralleled by decreasing costs of the application of these methods, is influencing the field of psychiatry in two important ways. First, research studies are uncovering a fast growing number of genetic variants that contribute to several psychiatric disorders. Second, genetic testing is increasingly implemented in routine clinical practice, including in the realm of psychiatry.

Up till now, the presence of psychiatric symptoms – or the suspicion thereof – has always been the usual motivation for psychiatric referral. The discovery of pathogenic genetic risk variants is changing this. As these variants are associated with increased risk of a psychiatric or developmental disorder they introduce something entirely novel in psychiatry: individuals who are referred not because of psychiatric symptoms, but because of a genetically mediated risk thereof. Of particular relevance in this regard are the notions of variable penetrance and pleiotropy. The first refers to the observation that associated psychiatric or neurodevelopmental outcomes are not consistently expressed. The latter pertains to the fact that the nature of the psychiatric phenotype may vary between carriers of the same genetic risk variant. In this presentation I will review how advances in genetic research are impacting the field of psychiatry, presenting both opportunities and challenges. Against this background I will discuss the importance of variable penetrance and pleiotropy.

Host: Monica Justice, PhD