Psychiatry, Suicide Research (PRN26705B)

HELP US IDENTIFY THE GENETIC CAUSES OF SEVERE PSYCHOPATHOLOGY AND SUICIDE DEATH
Our highly collaborative, interdisciplinary team of researchers is embedded in the new Huntsman Mental Health Institute (HMHI) in partnership with the University of Utah School of Medicine. The HMHI is committed to excellence in research, clinical care, and education.

Description
The Utah Suicide Genetic Research Study (PI: Anna Docherty, PhD, Hilary Coon, PhD, Amanda Bakian, PhD) is hiring postdoctoral analysts for genome-wide and epidemiological studies across several faculty R01 grants funded by NIMH. These grants will run 4-5 years and will provide time for postdoc career development as well as annual funding for travel to conferences and workshops. The University of Utah School of Medicine and our Center for Genomic Medicine have an international reputation across both medical and psychiatric genetics, and endowment of 150m that has culminated in the creation of the Huntsman Mental Health Institute. Our HMHI research group is active in all working groups of the Psychiatric Genomics Consortium, and we help lead international efforts in the areas of psychiatric genetics and genetic testing. With over $12 million in federal research funding, our team publishes regularly in high-profile journals, and spans the fields of psychiatric genetics, epigenetics, statistics, epidemiology, clinical research, and ethics.

The project: Suicide death is a highly genetic phenotype that is growing in prevalence, yet it presents statistical challenges for prediction science. We have unique resources that allow us to build prediction models incorporating new genetic risk metrics for suicide. Importantly, the aims here are to decrease the heterogeneity of suicide genetics such that risk subgroups are better characterized. In collaboration with the PGC over the coming 3-4 years, this includes the first sex-specific GWAS of suicide death, trans-ancestry and cross-ancestry GWASs of suicide death, and examination of polygenic risks and genetic correlations with suicide death respective of age, sex, and psychiatric diagnosis. Results are further informed by comprehensive medical record data (i.e. ICD codes) in >10k cases, and by rarer functional variants from whole genome sequence data. Other projects of particular interest include genetic analyses of suicide specific to ancestry, family history, postpartum depression, pain, opioid use, PTSD, schizophrenia, and LGBTQ+ status.

The data resource: Our cluster farm houses data from international cohorts as well as local suicide death and control cohorts. Our pipeline for imputation, GWAS, MWAS, and genetic scoring analyses is highly efficient, but needs more statistical and analytical “hands on deck” for methods development and the publication of discoveries. Genotyping with Illumina chips has been completed on ~5,500 suicide deaths, and whole genome sequencing has been completed on a selected subset of 670 suicides at increased genetic risk. Future additional studies will be possible in viably frozen cells from 3,500 skin samples from a subset of the suicides. >8,000 biosamples from population-ascertained suicide deaths have been linked to extensive longitudinal health records, demographics, deep genealogical data, genomic array data, and sequencing data. This is the largest genetically-informative data set of suicide death in the world. The resource grows by an average of 700-750 suicides per year; numbers with DNA will approach 10,000 within two years.

The work environment: The University of Utah is committed to creating an environment of inclusion and respect, and to actively recruit and fully foster the development of a physician and scientist workforce that reflects the diversity of our community. In our research lab, we strongly value equity, diversity, and inclusion, and we encourage applications from individuals who are underrepresented in research. We

additionally value work-life balance, and regularly take advantage of Utah's world-class outdoor recreation including hiking, mountain biking, skiing, and climbing.

Please apply online at https://utah.peopleadmin.com/postings/118526 and send a curriculum vitae and contact information for references. Send inquiries to anna.docherty@utah.edu