The NIH Office of Research on Women’s Health Presents:

Mapping Sex Differences in the Brain Using Neuroimaging

Tuesday, January 23, 2018
NIH Main Campus, Building 40, Room 1201/1203
3:00 p.m. – 4:30 p.m.

NIH Scientific Interest Group (SIG) on Sex and Gender in Health and Disease (SGHD)

The NIH Office of Research on Women’s Health (ORWH) is pleased to announce a new Scientific Interest Group (SIG) on Sex and Gender in Health and Disease (SGHD). The purpose of the SGHD group is to explore the influences of sex (as a biological variable) and gender (as a social construct) on health and disease across the lifespan; to promote the dissemination of research and foster potential interdisciplinary collaborations among NIH scientists who work on, or are interested in, aspects of sex-based research across the research continuum or in sex-differences research relevant to health and disease; and to serve as a platform for cross-disciplinary connections to inform biomedical and social and behavioral research efforts. The SGHD SIG also aims to catalyze new collaborations by leveraging the scientific expertise and acumen at NIH and neighboring research institutions.

The SIG co-chairs are Dr. Inna Belfer (inna.belfer@nih.gov) and Dr. Katrina Serrano (katrina.serrano@nih.gov), both in the Office of Research on Women’s Health.

Armin Raznahan, M.D., Ph.D.
Lasker Clinical Research Scholar
Chief, Developmental Neurogenomics Unit, Human Genetics Branch,
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Dr. Raznahan’s research combines neuroimaging, and genomic and bioinformatic techniques to better understand the architecture of human brain development in health, and in neurogenetic disorders that increase risk for psychiatric symptoms.

Presentation Abstract

Males and females show developmentally patterned behavioral sex differences, which may relate to sex differences in brain development. This is important in the field of mental health, where sex-biased mental disorders account for a large proportion of psychiatric morbidity. In vivo neuroimaging provides a powerful tool for the study of sexually dimorphic brain development. This talk will present structural neuroimaging research from our lab which:

- Creates spatiotemporal maps of sex differences in human brain development using large-scale longitudinal structural neuroimaging data,
- Probes candidate biological mechanisms underlying these differences using rare genetic cohorts, and
- Harnesses structural brain phenotypes to translate our findings in humans to mechanistically tractable murine models.

We hope that these efforts will provide one avenue toward better resolving the “when” and “where” of sex-biased brain development, as a basis for targeted follow-up experimental studies, which could identify cellular and molecular pathways that underpin sex-biased disorders of the brain.