

Summer Student Research Program  
Project Description

**FACULTY SPONSOR'S NAME AND DEGREE:** Walter Zahorodny, PhD

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**PROJECT TITLE:**

**Autism Spectrum Disorder (ASD) and Genetic Syndromes**

**HYPOTHESIS:**

Autism Spectrum Disorder (ASD) co-occurs with known genetic syndromes in a small but significant proportion of individuals and this proportion has increased between 2000 and 2014.

**PROJECT DESCRIPTION** (Include design, methodology, data collection, techniques, data analysis to be employed and evaluation and interpretation methodology)

We will investigate the extent to which genetic syndromes are identified in children with ASD. We will identify children with genetic disorders in a large active ASD surveillance system. Though associations between genetic factors and ASD have been known for some time and approximately 10% of ASD children are thought to have genetic syndromes, this topic has not been studied in population-based samples. We will identify syndromes, including Down, Fragile X, tuberous sclerosis, Angelman, Prader-Willi and others from multiple years of ASD surveillance conducted in New Jersey. Clarification of questions related to this topic may enhance our understanding of ASD phenotypes.

**SPONSOR'S MOST RECENT PUBLICATIONS RELEVANT TO THIS RESEARCH:**

J Baio, L Wiggins Christensen, W Zahorodny, et al, “ **Prevalence of autism spectrum disorder among children aged 8 years—Autism and Developmental Disabilities Monitoring Network, 11 Sites, United States**”, MMWR, 2018, 67(6): 1-23.

**THIS PROJECT IS:**    ☐ Clinical    ☐ Laboratory    ☐ Behavioral    ☒ Other

**THIS PROJECT IS CANCER-RELATED** ☐

Please explain Cancer relevance

**THIS PROJECT IS HEART, LUNG & BLOOD- RELATED** ☐

Please explain Heart, Lung, Blood relevance

**THIS PROJECT INVOLVE RADIOISOTOPES?** ☐

**THIS PROJECT INVOLVES THE USE OF ANIMALS** ☐

PENDING ☐

APPROVED ☐

IACUC PROTOCOL #

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### Project Description

**THIS PROJECT INVOLVES THE USE OF HUMAN SUBJECTS?** ☒

PENDING ☐ APPROVED ☒ IRB PROTOCOL # **0120010288**

**THIS PROJECT IS SUITABLE FOR:**

UNDERGRADUATE STUDENTS ☐  
SOPHOMORES ☐

ENTERING FRESHMAN ☐  
ALL STUDENTS ☒

**THIS PROJECT IS WORK-STUDY:** Yes ☒ or No ☐

**THIS PROJECT WILL BE POSTED DURING ACADEMIC YEAR  
FOR INTERESTED VOLUNTEERS:** Yes ☒ or No ☐

**WHAT WILL THE STUDENT LEARN FROM THIS EXPERIENCE?**

The proposed study will entail epidemiologic research. The student researcher will learn the Centers for Disease Control and Prevention (CDC) Autism and Developmental Disorders Monitoring (ADDM) Network epidemiologic methods & analytic strategies and conduct needed case finding activities, under supervision of the investigators. The researcher will learn the principles of active case finding, prevalence determination and data presentation. The student will learn about the defining characteristics of ASD, intellectual disability and related developmental disorders. The researcher will appreciate differences between idiopathic ASD and ASD that is comorbid with genetic disorders. The student will learn to present findings to a professional audience.