

Olivia Surgent

PhD Candidate

Neuroscience Training Program

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EDUCATION

- 2017 **PhD Candidate in Neuroscience**
(start) University of Wisconsin-Madison, Madison, WI
Neuroscience Training Program
Mentors: Dr. Brittany Travers – Department of Kinesiology, and
Dr. Brendon Nacewicz – Department of Psychiatry
- 2017 **B.A in Neuroscience (Honors)**
Hamilton College, Clinton, NY
Thesis: *Operant Learning in Adult Rats is Impaired Following Postnatal GABA_A Receptor Blockade*
Advisor: Dr. Siobhan Robinson

HONORS AND AWARDS

- 2020 Rankin/Skatrud Leadership Pre/Post-Doctoral Scholarship, University of Wisconsin-Madison
- 2020 David Zeaman Student Travel Award, Gatlinburg Conference on Research and Theory in Intellectual and Developmental Disabilities
- 2019 Morse Society Scholar Fellowship, University of Wisconsin-Madison
Graduate student fellowship for training and research in childhood mental health and developmental disabilities
- 2017 Elihu Root Fellowship, Hamilton College
Awarded to a student who has shown high achievement and special aptitude for research in science
- 2017 Paul S. Langa Prize, Hamilton College
Awarded to a student who has demonstrated academic excellence along with outstanding determination, leadership, and commitment to extracurricular activities
- 2017 Jonathan Vaughan Award in Psychology, Hamilton College
Travel award given to a student with aptitude in psychology who is seeking to attend a major conference in his or her field
- 2015 Class of 2009 Memorial Prize Scholarship, Hamilton College
Awarded to a student who has made a significant impact in serving the Hamilton College and local communities
- 2014 Maurice Horowitch Summer Internship Funding, Hamilton College
- 2013-2017 Dean's List, Hamilton College

PUBLICATIONS

- Surgent, O.J.**, Dean, D.C., Alexander, A.L., Dadalko, O., Guerrero-Gonzalez, J., Taylor, D., Travers, B.G. (in preparation). Neurobiological and Behavioral Outcomes of a Biofeedback-Based Videogame Training in Youth with and without Autism: A Randomized Controlled Trial.
- Surgent, O.J.**, Walczak, M., Zarzycki, O., Ausderau, K., & Travers, B.G. (2020). IQ and Sensory Symptom Severity Best Predict Motor Ability in Children with and without Autism Spectrum Disorder. *Journal of Autism and Developmental Disabilities*.
- Ardalan, A., Assidi, A., **Surgent, O.J.**, & Travers, B.G. (2019). Whole-Body Movement during Videogame Play Distinguishes Youth with Autism from Youth with Typical Development. *Nature Scientific Reports*.
- Surgent, O.J.**, Dadalko, O.I., Pickett, K.A., & Travers, B.G. (2019). Balance and the brain: A review of structural brain correlates of postural balance and balance training in humans. *Gait & Posture*, 71, 245-252.
- Chen, Y.W., **Surgent, O.**, Rana, B.S., Lee, F., Aoki, C. (2017). Variant BDNF-Val66Met polymorphism is associated with layer-specific alterations in GABAergic innervation of pyramidal neurons, elevated anxiety and reduced vulnerability of adolescent male mice to activity-based anorexia. *Cerebral Cortex*, 27, 1-14.

RESEARCH EXPERIENCE

Motor and Brain Development Lab - Kinesiology Department, UW-Madison

Mentor: Brittany Travers, PhD

University of Wisconsin – Madison, WI

PhD Candidate (September 2017-present)

- Conducts research into the neural basis of motor development in children with Autism Spectrum Disorder (ASD)
- Performs behavioral assessments to determine ASD symptom severity as well as sensorimotor ability in children ages 6 to 10
- Analyzes Magnetic Resonance Imaging (MRI) data to assess potential neural mechanisms of motor development

Nacewicz Neurochemistry Lab - Psychiatry Department, University of Wisconsin-Madison

Mentor: Brendon Nacewicz, MD, PhD

University of Wisconsin – Madison, WI

PhD Candidate (September 2017-present)

- Develops software to enhance analysis of high temporal resolution functional MR spectroscopy (ht-fMRS)
- Collects and analyzes ht-fMRS data with the goal of determining neurochemical signatures of motor behavior in children with Autism Spectrum Disorder

Waisman Center for Brain Imaging and Behavior

Mentor: Brittany Travers, PhD

University of Wisconsin - Madison, WI

Research Assistant (June 2016 – August 2016)

- Conducted research to understand the cascading effects of motor improvement on white matter microstructure in individuals with Autism Spectrum Disorder
- Processed and analyzed diffusion tensor imaging data

Center for Neural Science - Aoki Lab

Mentor: Chiye Aoki, PhD

New York University, New York, NY

Research Assistant (June 2015 - August 2015)

- Participated in a NSF-REU funded Summer Undergraduate Research Program
- Conducted a research project to further understanding of the neurochemical basis of anxiety
- Gained experience in transmission electron microscopy

PRESENTATIONS

- 2020 **Surgent, O.J.**, Travers, B.G., Nacewicz, B., Characterizing the pontine neurotransmitter signature of visuomotor integration in children with Autism Spectrum Disorder using functional MR Spectroscopy. Oral presentation accepted for Gatlinburg Conference on Research and Theory in Intellectual and Developmental Disabilities, cancelled due to COVID-19 pandemic.
- 2019 **Surgent, O.J.** Characterizing the neurochemical signature of visuomotor integration in children with Autism Spectrum Disorder. Invited oral presentation at Hamilton College, Clinton, NY.
- 2019 **Surgent, O.J.**, Travers, B.G., Nacewicz, B. Event-Related Functional Spectroscopy Reveals Distinct Glutamate and GABA Responses in Children with ASD. Poster presented at the International Society for Autism Research Annual Meeting, Montreal, Canada.
- 2019 **Surgent, O.J.**, Ausderau K.K., Dean, D.C., Dadalko, O.I., Alexander, A.L., Travers, B.G. The Role of the Corpus Callosum in Sensory Hyporesponsiveness of Children with Autism Spectrum Disorder. Poster presented at the International Society for Autism Research Annual Meeting, Montreal, Canada.
- 2019 Ardalan, A., Assadi, A., **Surgent, O.J.**, Travers, B.G. Whole-Body Movement During Videogame Play Distinguishes Youth with Autism from Youth with Typical Development. Poster presented at the International Society for Autism Research Annual Meeting, Montreal, Canada.
- 2019 **Surgent, O.J.**, Ausderau, K., Travers, B.G. The Effect of Sensory Experience on Motor Ability in Autism Spectrum Disorder. Poster presented at the Gatlinburg Conference on Research and Theory in Intellectual and Developmental Disabilities, San Antonio, TX.
- 2018 Nacewicz, B.M., **Surgent, O.J.**, Travers, B.G. High Temporal Resolution Event-Related Functional Spectroscopy Reveals Grossly Abnormal Neurotransmitter Responses in Pontine Reticular Nuclei in Autism Spectrum Disorder. Poster presented at the Society for Biological Psychiatry Conference, New York, NY.
- 2017 **Surgent, O.J.**, Robinson, S. Operant Learning in Adult Rats is Impaired Following Postnatal GABAA Receptor Blockade. Poster presented at the Society for Neuroscience Conference, Washington, D.C.
- 2017 Aldrich, S., **Surgent, O.J.**, Robinson, S. Characterization of a Putative Rat Model of Autism Spectrum Disorder. Poster presented at the New York 6 Conference, Saratoga Springs, NY.
- 2015 **Surgent, O.J.**, Chen, Y.W., Aoki, C. *Regulation of adolescent anxiety: the presence of GABAergic axo-somatic synaptic junctions in hippocampal CA1*

neurons. Poster presented at NYU Arts and Sciences Summer Student Conference, New York, NY.

PROFESSIONAL AFFILIATIONS

2018 - Present International Society for Autism Research (Member)

2017 - Present Sigma Xi Scientific Research Honor Society (Associate Member)

2017 - Present Society for Neuroscience (Member)