**Julian David-Drori, MS, EMT, BCCS**

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# **EDUCATION**

## Columbia University, Manhattan, NY -Master of Science in Neuroscience and Education- May 2020 - May 2022; *Magna Cum Laude*

David-Drori, J. (2022).. *“Ouch!: Prevalence of Hand Discomfort in Developmental Dysgraphia.”* Empirical Thesis.

## SUNY Geneseo, Geneseo, NY -Bachelor of Arts in Psychology and History Double Major

### August 2015 - August 2019

# **RESEARCH**

Language and Cognitive Neuroscience Lab, Teachers College, Columbia University, New York, NY—*Lead Research Assistant and Research Coordinator*

May 2023-Present

As a Lead Research Assistant, I have been working on an EEG study of weather individuals on the autism spectrum exhibit a diffrent response to visual stimuli than those in the control group. This study is part of a doctoral thesis for Erin Kirby, in Dr. Peter Gordons lab. As part of my work i have rewritten our protocols and added new assessments, such as the RIST, to allow for wider recruiting procedures. Further, I have taken on a coordinator role, coordinating trainings and data collection sessions. I have also had hands on experience leading EEG data collection sessions and conducting data analysis using NET Station and HAPPE. Additionally, I am on a team rebuilding and updating the lab website using T4. I have also been Heavily involved in the Coordinationa nd scheduling of lab activities

Multiple Research Pathways (MRP) Lab, Neurobehavioral Institute of New York, New York, NY—*Founder/Principal Investigator*

February 2023-Present

The lab operates by allowing multiple researchers to conduct studies with as much support as can be provided. These studies range between different topics. My research is multifaceted as always, but at the moment, centers around two separate projects, one is a larger version of my thesis, examining the prevalence of hand discomfort in developmental dysgraphia , while the other, centers around the effectiveness of anti-depressants, and anti-anxiety medication‘s during the graduate admission process.

Neurobehavioral Institute of New York, New York, NY—*Founding Director of Research and Education/ Founding IRB Chairperson*

May 2022-Present

In this role, I have been privileged to be one of the founding directors of Neurobehavioral Institute of New York (NIONY) as its Director of Research. In this role, I oversee all research projects that this organization participates in and/or sponsors. Additionally, I frequently work to access funding for various projects.

I have also founded this organization’s Institutional Review Board, and I wrote its bylaws as well as procedures.

Additionally, in this role, I have brokered a partnership with Inclusion works to allow for greater accessibility to services for those with Neurodevelopmental Disabilities

## History of Developmental Dysgraphia, Neurobehavioral Institute of New York, New York, NY — *Primary Investigator*

### May 2022– Present

Presently, I am conducting research in order to write a history of Developmental Dysgraphia. The goal of this paper would be to not only elucidate the frequently forgotten but important part of history but also to demonstrate how we might learn from how dysgraphia was treated in the past and apply it to new treatment methods in the future.

## Developmental Dysgraphia and Pain (DDP) Project, Teachers College, Columbia University, New York, NY — *Primary Investigator*

### November 2020 – Present

I am currently designing and running a study on the effects of hand pain in Developmental Dysgraphia on cognitive abilities. This project is being submitted for IRB review. This project would utilize a combination of surveys and neuropsychological testing in order to examine whether or not hand discomfort/pain experienced by those with Developmental Dysgraphia will cause cognitive fatigue and impair their abilities in other areas. If this is the case, those with Developmental Dysgraphia might benefit from breaks during testing in order to allow the pain to subside.

## Counseling About Lethal Means (CALM Training), Teachers College, Columbia University, New York, NY -*Research Assistant*

### September 2021-December 2021

In response to the New York State Governor's Challenge for Veteran Suicide Prevention, this project sought to create a training directed towards family members and loved ones of veterans in order to educate them about seeking support for their loved ones. This training would be based off of training given to clinicians and other professionals. In working on this project, I conducted interviews with family members and veterans in order to get their opinions on this project and how the training might be improved. In addition, I also worked on some of the logistics and technical methodology required to make the program run.

## PEAR Lab, Teachers College, Columbia University, New York, NY —*Research Assistant*

### November 2020– May 2022

This lab focuses on the methodologies by which learning disabilities and ADHD are diagnosed. The lab seeks to evaluate testing methods and their efficacy.

## Markowski Behavioral Neurotoxicology Lab, SUNY Geneseo, NY — *Researcher/ Lab Manager*

### March 2017 – March 2020

-Research assistant to Vincent Markowski in research that determined the effects of toxicants on animal behavior; working on projects involving THC and MK801/ CDPPB concurrently

-Conducting social behavior testing, perfusions and brain removals on animals

-Utilizing microscopy to examine and photograph brain slices

-Stitching images together using Fiji Image J software in order to create full images of the Dentate Gyrus

-Ran a self designed study examining THC and its effect on nociceptive pain as well as cardiac output in rats who were dosed prenatally with THC which is in its 7th generation as of Summer 2022

# PUBLICATIONS

### Edwards, C. M., Small, D., Bell, T., David-Drori, J., Hansen, C., Morris-Schaffer, K., Canale, C., Ng, J., & Markowski, V. P. (2020). Early postnatal decabromodiphenyl ether exposure reduces thyroid hormone and astrocyte density in the juvenile mouse dentate gyrus. Physiology & behavior, 216, 112798. https://doi.org/10.1016/j.physbeh.2020.112798

Decabromodiphenyl ether (decaBDE) is a flame retardant that was widely-applied to many consumer products for decades. Consequently, decaBDE and other members of its class have become globally-distributed environmental contaminants. Epidemiological and animal studies indicate that decaBDE exposure during critical periods of brain development produces long-term behavioral impairments. The current study was designed to identify potential neuroendocrine mechanisms for learning and response inhibition deficits observed by our lab in a previous study. C57BL6/J mouse pups were given a single daily oral dose of 0 or 20 mg/kg decaBDE from day 1 to 21. Serum thyroid hormone levels and astrocyte-specific staining in three regions of the hippocampus were measured on day 22. DecaBDE exposure significantly reduced serum triiodothyronine, thyroxine, and astrocyte density in the subgranular zone but not the hilus or granular layer in both male and female mice. The reduction of thyroid hormone and/or glia activity could impair hippocampal development, leading to behavior dysfunction.

# GRANTS

*Undergraduate Research Grant, SUNY Geneseo*, September 2018: Awarded funds for research on rats who were administered THC to test for pain perception and cardiac output conducted by David-Drori, J.. Amount awarded = $1800.

# AWARDS & SCHOLARSHIPS

## Dr. Cynthia Sculco (Ed.D.'74) Annual Fund Scholar, Teachers College, Columbia University— $4,100

May 2020

## Research Award, Psychology Department, SUNY Geneseo — *Recipient*

### April 23, 2019

Award received for outstanding and exceptional research in psychology and neuroscience.

# HONOR SOCIETIES

## Psi Chi

### November 2021- Present

KDP

May 2022 - Present

# PROFESSIONAL AFFILIATIONS

APA Membership-Associate Level

August 2022 - Present

# PRESENTATIONS

### David-Drori, J.(2018). Exposure to the Glutamatergic drugs MK801 and CDPPB affects the development of social and motor behaviors in a schizophrenia model [Conference ]. GREAT Day Conference, SUNY Geneseo, Geneseo, NY.

The neurodevelopmental hypothesis depicts schizophrenia as a long-term consequence of aberrant development of the glutamate and dopamine neurotransmitter systems during the perinatal period. The drug MK-801 is a glutamate N-methyl-D-aspartate (NMDA) receptor antagonist that produces schizophrenia-like symptoms in laboratory rodents when administered early in development. Our laboratory has been investigating whether CDPPB, a positive allosteric modulator of the metabotropic glutamate receptor 5 (mGluR5), would reverse the effects of MK-801. To test this, mice were first administered 0.25 mg/kg MK-801 as neonates, and later given 10.0 mg/kg CDBBD or saline during their juvenile period. After mice reached adulthood, they were examined with the Rotarod motor coordination test and the 5-trial Social Memory test. Motor coordination in females but not males was impaired by MK-801 exposure, an effect that was not reversed by CDPPB. Neither drug affected social memory, although males showed more habituation to a familiar partner than females. Preliminary results from this work in progress indicate that MK-801 can produce long-term sex- and domain-specific effects on behavior.

### David-Drori, J. (2018, April). Sturges Hall and the Forgotten S.T.E.M. G.R.E.A.T. Day. Geneseo; New York .

As it currently stands, the Psychology Department at SUNY Geneseo makes its home in Bailey Hall where it produces terrific research and makes an impact, not only in the field of Psychology, but other subjects as well. However, it was not always this way, as the department actually used to be housed in Sturges Hall. During its time there, the members of the department had to put up with lackluster conditions, which caused setbacks for the department’s research. Then, in 2004, after many years of back and forth between the faculty and administration, the department and its labs moved to Bailey Hall. This paper will use interviews, photos, and original documents to explain how the exodus of the Psychology Department from Sturges Hall to Bailey Hall is an important point in the long history of the department, and is relevant in determining the trajectory of the department’s future as a producer of important research.

### David-Drori, J. (2018, April).Step-by-step procedures for acquiring neuroanatomic data from mice. [Poster presentation]. G.R.E.A.T. Day. Geneseo; New York.

The Markowski Neurotoxicology Lab in the Psychology Department has made many contributions to the study of Psychology. Much of the research done in the lab utilizes data from the brains of the mice who acted as the subjects of the study. Although the brains shed light on the issues which are detailed in the study, one might begin to question how the brains, and subsequent data, were obtained. This presentation will give a step-by-step analysis of the process by which the brains were acquired, prepared, and examined for data.

### David-Drori, J. (2019, April). Effects of perinatal tetrahydrocannabinol exposure on somatosensory thresholds and motor functions in rats. [Poster presentation]. G.R.E.A.T. Day. Geneseo; New York.

Epidemiological studies have shown that prenatal cannabinoid exposure leads to motor tremors and exaggerated startle responses in infants. Research with animal models has shown that cannabinoid receptors in the brain regulate the development of motor activity. Thus, while early cannabinoid exposure appears to produce motor deficits, their effects on somatosensory function have not been studied. Consequently, the current study used a rat model to examine motor reflex development, strength, and somatosensory detection of a nociceptive stimulus following perinatal exposure to tetrahydrocannabinol (THC). Female rats received a daily oral dose of 0, 2, 5 or 10mg/kg THC in sesame oil throughout their gestation and lactation periods. Righting reflexes were examined in juvenile animals. Fore- and hindlimb strength were examined with a digital grip strength meter. Somatosensory thresholds were examined with a tail flick apparatus. The initial results from this work in progress suggest that THC produces sex-specific changes in strength and somatosensory functions.

## David-Drori, J. (2019, April). Neonatal exposure to the flame retardant, decabromodiphenyl ether, reduces astrocyte density in hippocampal subregions. [Poster presentation]. G.R.E.A.T. Day. Geneseo; New York.

Decabromodiphenyl ether (decaBDE) is a brominated flame retardant chemical that was applied to many consumer products. Unfortunately, it has become a prevalent environmental contaminant that can reduce thyroid hormone levels. Thyroid hormone is important for healthy brain development. Among its many effects, thyroid hormone promotes astrocyte differentiation; cells that help form the blood-brain barrier and transport nutrients and other important chemicals, including thyroid hormone, from the blood to neurons in the brain. This study hypothesizes that decaBDE exposure reduces astrocyte density in specific regions of the hippocampus including the hilus and subgranular zone. To investigate, immature mice were exposed to 20 mg/kg/day decaBDE from postnatal day 1-21. Brain samples were removed on day 22, sectioned, stained, and imaged at 20x magnification. NIH ImageJ software was used to measure hippocampal areas and obtain cell counts. Initial results from this work in progress indicate that decaBDE exposure significantly reduced the number of astrocytes but did not change the volume of key subregions in the hippocampus.

# Assessments Experienced With:

- Bender Visual-Motor Gestalt Test (Bender-Gestalt II)

-Repeatable Battery for the Assessment of Neuropsychological Status- UPDATE (RBANS Update), Forms A &B

-NEPSY-II

-Autism Diagnostic Observation Schedule (ADOS-II)

-Wechsler Intelligence Scale for Children (WISC-V)

-Wechsler Individual Achievement Test (WIAT-4)

-Wechsler Adult Intelligence Scale (WAIS-4)

-Feifer Assessment of Writing (FAW)

-Feifer Assessment of Math (FAM)

-Feifer Assessment of Reading (FAR)

-Behavior Assessment System for Children (BASC-3)

-Social Responsiveness Scale (SRS)

-Children's Apperception Test (CAT-H)

-Thematic Apperception Test (TAT)

-Autism Diagnostic Interview (ADI-R)

-Delis-Kaplan Executive Functioning System (DKEFS)

-Reynolds Intellectual Assessment Scales (RIAS-2)

-Gilliam Autism Rating Scale (GARS-3)

-Mini Mental Status Exam (MMSE)

-Vineland Adaptive Behavior Scales (Vineland 3)

-Grip Strength Testing

-Test of Memory Malingering (TOMM)

-Minnesota Multiphasic Personality Inventory (MMPI 3)

-Sentence Completion Test

-Ritvo Autism Asperger Diagnostic Scale Revised (RAADS)

-Rey Complex Figure Task

-Wide Range Achievment Test, (WRAT-5)

-Conners 4

-Controled Oral Word Fluency Test (COWAT)

-Neuropsychological Assesment Battery (NAB)

-Hooper Visual Orientation Test (HVOT)

-Autism Quotient (AQ)

-Empathy Quotient (EQ)

-Test of Word Reading Efficiency (TOWRE-2)

-Dot Counting Task (DCT)

# **TEACHING EXPERIENCE**

## BBS 5069: Brain and Behavior 2, Teachers College, Columbia University, New York, NY — *Course Assistant*

### January 2024- May 2025

Assisting students in learning topics covered in class. Holding office hours and review sessions to ensure a positive outcome for students. In addition, also helped with cadaver lab instruction and grading.

Positive Psychology and AI, AX Futures Academy, Boston, MA- Adjunct Professor

November 2023-Present

In this role, I teach and write curriculum for a course of my own design on Positive psychology and AI. I also work one-on-one with students and do all grading that is needed.

## COG 288: Intro to Cognitive Science, Montclair State University, Montclair, NJ- Adjunct Professor

August, 2023-Present

In this role, I teach and write curriculum for intro to cognitive science courses. I also work one-on-one with students and do all grading that is needed. I currently work with one section this semester and next semester will be teaching two separate sessions.

Educational Neuropsychology, AX Futures Academy, Boston, MA- Adjunct Professor

August 2023-Present

In this role, I teach and write curriculum for a course of my own design on educational neuropsychology. I also work one-on-one with students and do all grading that is needed.

ADL and Executive Functions: School for Young Performers, New York, NY- Teacher

December, 2022-June 2023

In this role, I teach and write curriculum for teaching individuals with Neurodevelopmental Disabilities how to accomplish tasks of daily living and hone executive functions. I also work one-on-one with students and do all grading that is needed. \

## BBSN 5019: Functional Human Neuroanatomy, Teachers College, Columbia University, New York, NY — *Course Assistant*

### September 2022 - Present

Assisting students in learning topics covered in class. Holding office hours and review sessions to ensure a positive outcome for students. In addition, also helped with cadaver lab instruction and grading. This is my second time being a Course assistant for this course.

## Brainy Bunch Journal Club- *Mentor*

### August 2021- Present

Mentored three separate groups of individuals who were presenting journal articles on various topics in neuroscience. Duties included in my name teaching how to read scientific articles, explaining concepts within neuroscience and providing advice to budding neuroscientists.

## Personal Tutor

### October 2018 - Present

Tutoring several students in Human Neuropsychology, Biopsychology and Behavioral Pharmacology, Behavioral Genetics, Educational Psychology, Abnormal Psychology, Functional Human Neuroanatomy and Research Methods.

## Psych 233: Biopsychology, SUNY Geneseo, Geneseo, NY — *Teaching Assistant*

### January 2018 -May 2019

Assisting students in learning topics covered in class. Holding office hours and review sessions to ensure a positive outcome for students.

## Psych 251: Introduction to Behavioral Research Methods, SUNY Geneseo, Geneseo, NY — *Teaching Assistant*

### January 2018 - May 2018, January 2019-May 2019

Assisting students in learning topics covered in class. Holding office hours and review sessions to ensure a positive outcome for students.

## Psychology Club Tutor, SUNY Geneseo, Geneseo, NY

### January 2018 - May 2019

Assisting students in learning topics covered in class. Holding office hours and review sessions to ensure a positive outcome for students, specifically in the subjects of Biopsychology and Research Methods.

# **EMPLOYMENT**

Neurobehavioral Institute of New York, Astoria, NY- Executive Functions Coach

March 2023 - Present

I founded a executive function coaching program at NIONY Which takes data from neuropsychological assessments to allow us to treat individuals with ADHD, autism and other disorders and gives them coping mechanisms for executive functioning issues.

Psychological Evaluations and Consulting, New York, New York-Neuropsychometrist

June 2023-Present

In this role, I administer and score tests for independent medical evaluations. I am the child specialist.

Neuropsychological Services of Astoria, Astoria, NY——- Head Neuropsychometrist/ Testing Coordinator

### October 2021 - Present

Lead administrator of tests and batteries as well as conducting intakes in line with the general procedures and practices of the office.

## Achievement Behavior Services, Behavioral Technician, New York, NY

July 2021 - Present

Worked with multiple private families to assist with violent behaviors and to support families in effectively preparing for (and handling) behavioral crisis situations. In conjunction with BCBA, plans were implemented to assist an individual in limiting their aberrant behaviors and to find better coping strategies. ABA methods were used to alleviate negative responses to specific neutral stimuli which caused behaviors.

## Faith Church, Yonkers, Special Education Consultant, Yonkers, NY

July 2021 - Present

Worked with church leadership in order to create a more accessible environment for those with Neurodevelopmental disabilities such as autism spectrum disorder. Weekly, I assist not only in general set up for children’s ministry but also in modifying, or otherwise elucidating the curriculum in order to make it accessible. More recently, I have also been assisting with translation of the daily curriculum into Russian for Ukrainian immigrants, who have joined the community.

### Amphibious Medics, New York, NY — Emergency Medical Technician/COVID Response Team

### July 2021 - Present

Acted as medical presence on construction site, movie shoots and photo shoots as well as other functions

### Educational Solutions. Syracuse, NY—- Senior Testing Technician

### March 2020 - August 2021

Assisted in the administration of several psychological and neuropsychological test batteries.

### Amphibious Medics, Liverpool, NY — Emergency Medical Technician/COVID Response Team

### March 2020 - August 2021

Acted as medical presence on construction site and conducted temperature checks for safety precaution; additional medical presence for events as needed.

## Advocates Inc, Syracuse, NY— *Mentor*

### April 2020- Present

Working in a residential setting assisting individuals with developmental disabilities in completing daily living tasks, taking medications and other needs as they may arise. In addition worked to implement several behavioral plans using methods such as discrete trial teaching to alleviate aberrant behavior.

## ARC of Livingston Wyoming, Livonia, NY— *Direct Support Professional*

### June 2019- June 2020

Worked in a residential setting assisting individuals with developmental disabilities in completing daily living tasks, taking medications and other needs as they may arise. Additionally, in crisis scenarios and in the area of medication, trainings were taken to help implement plans for individuals who needed support in taking their medication in pill form.

## Livonia Emergency Medical Services, Geneseo, NY — *EMT/Medic*

### October 2018 – July 2020

Working on the ambulance responding to medical calls from the town and village of Livonia and vicinity.

## ARISE, Syracuse, NY — *Direct Support Professional*

### August, 2017 - March 2018

Assisted those with disabilities in navigating their daily lives and in various tasks required to meet their goals. Specifically worked with many individuals who had significant violent aberrant Behavior episodes to alleviate these behaviors in conjunction with a Behavioral Analyst.

# CAMPUS AND COMMUNITY INVOLVEMENT

Psychology Club, SUNY Geneseo

— *General Member*

### October 2015-May 2019

Worked on various projects to help club run, attended meetings etc.

History Club, SUNY Geneseo

— *Treasurer*

### Sept 2018-May 2019

Managed club accounts and ensured that there were no discrepancies in the club’s finances.

History Club, SUNY Geneseo

— *Academic Affairs Committee Representative*

### Sept 2017-May 2019

Worked on various projects to help club run, attended meetings, acquired funds for the group when they wanted to complete a project but needed extra funding, and voted with Academic Affairs Committee representatives on college issues.

History Club, SUNY Geneseo

— *General Member*

### October 2015-May 2019

Worked on various projects to help club run, attended meetings etc.

Reenactment Company of SUNY Geneseo, SUNY Geneseo

— *President/Captain*

### March, 2016-2019

Presided over a Civil War reenactors’ group at SUNY Geneseo geared both towards portraying history and making the hobby accessible to those with disabilities. Arranged and planned events such as Spirit Walks in local cemeteries, during which reenactors portrayed those who were buried there, along with events at local museums and schools.

## Geneseo Fire Department, Protective Company, Geneseo, NY — *EMT-B*

### April 2017 - October 2017

Working on the ambulance responding to calls from the town and village of Geneseo and vicinity.

Reenactment Company of SUNY Geneseo, SUNY Geneseo

— *Founder*

### March, 2016

Founded a Civil War reenactors’ group at SUNY Geneseo geared both towards portraying history and making the hobby accessible to those with disabilities.

## Geneseo Fire Department, Protective Company, Geneseo, NY — *Medic Trainee*

### December 2015 - April 2017

Working on the ambulance responding to calls from the town and village of Geneseo and vicinity.

# Skills

* Work with individuals on the Autism Spectrum for the past decade
* HSI CPR Instructor-2023
* Certified “Stop The Bleed Campaign” Instructor-2017
* American Heart Association Healthcare Provider CPR Certified-2021
* New York State Certified Emergency Medical Technician Basic-2019
* R Programing
* SPSS
* Fiji Image J software
* Microsoft Office Suite
* Noldus
* Google Programs
* Python
* MATLAB
* Q-Global
* PARIConnect
* WPS EOS
* HAPPE
* T4
* MATLAB
* NET Station
* Insurance Prior Authorizations