## Psychiatry Trainee Grand Rounds

WCM Department of Psychiatry Psychology CE Announcement

# *"Unveiling the Connection: Exploring the Role of Dynamic Microtubules in Synaptic Plasticity and their Implication in Psychiatric Treatment"*

**Ryan Dosumu-Johnson, MD/PhD** Child and Adolescent Psychiatry Fellow

### "Dynamics in Narcissism: Assessing Grandiosity and Vulnerability"

Elizabeth A. Edershile, MS

Clinical Psychology Intern

Wednesday, May 31<sup>st</sup>, 2023 11:00am – 12:30pm <u>https://weillcornell.zoom.us/j/92812036154</u> Meeting ID: 928 1203 6154 Password: 12345

1.5 CE credit available to WCM Department of Psychiatry full time and voluntary faculty Psychologists and Social Workers who sign in with their full name, attend the majority of the lecture and complete a survey which will be emailed following the completion of the lecture. Note the survey must be completed within 30 days of the lecture.

SPEAKER DISCLOSURE: Dr. Dosumu-Johnson and Ms. Edershile have no relevant financial relationship(s) with ineligible companies to disclose and DO NOT INTEND to discuss off-label or investigational use of products or services.

Ryan Dosumu-Johnson completed his undergraduate degree at University of California Los Angeles in neuroscience, before earning his M.D. from Harvard Medical School and his Ph.D. in Neuroscience from Harvard Graduate School of Arts and Sciences which was funded by a Howard Hughes Medical Institute Gilliam Fellowship. Dr. Dosumu-Johnson is currently in a combined child and general psychiatry residency and fellowship where he is completing his general training at New York Presbyterian – Columbia University/New York State Psychiatric Institute and his child training at the combined New York Presbyterian Columbia/ Weill Cornell program where he is funded by a Leon Levy Research Fellowship and is the inaugural Shaeffer Scholar. His research interests are in the role modification in cytoskeletal architecture play in psychiatric and neurodevelopmental disorders. He has authored multiple peer-reviewed journal articles and held national board positions at the Student National Medical Association.

Abstract: The human brain is a true masterpiece, consisting of 86 billion brain cells. However, its real complexity lies in the synapses, which are the connections between these cells and are estimated to number 100 trillion. These connections encode our memories, innate responses, and reactions, as well as shape our perception and interpretation of the world. Disruptions in these connections have been proposed as the underlying mechanism for several psychiatric disorders, including schizophrenia, bipolar disorder, depression, autism, and ADHD, as well as age-related conditions such as Alzheimer's disease. This intricate network of connections is shaped by experiences, development, and genetic factors. A relatively understudied area that plays a crucial role in this network is the motile elements of the cytoskeleton called dynamic microtubules. In this talk, novel viral strategies for tracking the subcellular movement of growing microtubules in dopaminergic neurons will be presented. Moreover, the talk will delve into how psychiatric medications and life experiences may alter these dynamics in mouse models.

#### Learning Objectives:

- 1. Analyze the role microtubules play in psychiatric illness and treatment
- 2. Discuss novel approaches to studying dynamic microtubules in intact circuits
- 3. Explain preliminary findings about the role of microtubules in psychiatric treatment

#### **References:**

- Forrest MP, Parnell E, Penzes P. Dendritic structural plasticity and neuropsychiatric disease. Nat Rev Neurosci. 2018 Mar 16;19(4):215-234. doi:10.1038/nrn.2018.16. PMID: 29545546; PMCID: PMC6442683.
- 2017 Dec 20;9(12):e1973. doi: 10.7759/cureus.1973. PMID: 29492362; PMCID: PMC5820006.
- 3.Hino M, Kondo T, Kunii Y, Matsumoto J, Wada A, Niwa SI, Setou M, Yabe H. Tubulin/microtubules as novel clozapine targets. Neuropsychopharmacol Rep. 2022 Mar;42(1):32-41. doi: 10.1002/npr2.12221. Epub 2021 Dec 28. PMID: 34964309; PMCID: PMC8919115.
- Murray PS, Kumar S, Demichele-Sweet MA, Sweet RA. Psychosis in Alzheimer's disease. Biol Psychiatry. 2014 Apr 1;75(7):542-52. doi: 10.1016/j.biopsych.2013.08.020. Epub 2013 Oct 6. PMID: 24103379; PMCID:PMC4036443.
- 5. Wei Y, Wang G, Chen J, Xiao L, Wu Z, He J, Zhang N. Maternal deprivation induces cytoskeletal alterations and depressive-like behavior in adult male rats by regulating the AKT/GSK3β/CRMP2 signaling pathway. Physiol Behav. 2021 Dec 1;242:113625. doi: 10.1016/j.physbeh.2021.113625. Epub 2021 Oct 16. PMID: 34666114.
- Marchisella F, Coffey ET, Hollos P. Microtubule and microtubule associated protein anomalies in psychiatric disease. Cytoskeleton (Hoboken). 2016 Oct;73(10):596-611. doi: 10.1002/cm.21300. Epub 2016 May 20. PMID: 27112918.

**Elizabeth A. Edershile** is currently a clinical psychology intern at New York Presbyterian Hospital/Weill Cornell Medicine. She is a doctoral candidate at the University of Pittsburgh, Department of Psychology where she also completed a minor in Quantitative Methodology. She received her BA in Psychology from Washington University—St. Louis with minors in economics and French. Her program of research examines the complex dynamic processes that underlie expressions of personality pathology, particularly interpersonal processes underlying expressions of narcissism. In her work, she leverages quantitative methods in tandem with ambulatory assessment and experimental techniques to explore maladaptive processes in personality and personality pathology. Elizabeth has received several awards for this line of work, including the 2022 Mary S. Cerney award by the Society for Personality Assessment, the 2020-2021 Andrew W. Mellon Predoctoral Fellowship by the University of Pittsburgh, and the 2019 Wiggins Award by the Society for Interpersonal Theory and Research.

Abstract: Clinical accounts of narcissism emphasize dynamic shifting of grandiosity and vulnerability in response to social feedback. To date, theories of dynamics within narcissism have been difficult to integrate with empirical evidence for such shifting. This integration is difficult for several reasons, including ambiguity with respect to timescale of change and operationalization of key contextual features thought to set narcissism dynamics in motion. This talk will discuss current empirical evidence for shifts in narcissistic symptom expression. Research that examines individuals in their daily lives demonstrates that people do shift in their levels of grandiosity and vulnerability across time. Further, such variability is related to key contextual features, such as perceptions of the interacting partners' behavior. Experimental studies are particularly useful for identifying key situational factors related to cause and effect for expressions of narcissistic grandiosity and vulnerability. Integrating tools that allow for the study of individuals in their daily lives with experimental methods that capture causes of change will ultimately allow us to better align clinical theories and empirical work and, thus, has the potential to provide a comprehensive model of processes underlying narcissism.

#### Learning Objectives:

- 1. Discuss several reasons why it has been difficult to integrate clinical theories of narcissism with empirical evidence for dynamic processes
- 2. Describe what naturalistic research suggests about dynamics within and between grandiosity and vulnerability
- 3. Describe what types of status threatening situations might be particularly important with respect to changes in grandiosity and vulnerability

#### **References:**

- Edershile, E.A., Szücs, A., Dombrovski, A.Y., & Wright, A.G.C. (2023). Dynamics of narcissistic grandiosity and vulnerability in naturalistic and experimental settings. Preprint: https://psyarxiv.com/79e6m/ 2. Edershile, E.A., & Wright, A.G.C. (2022). Narcissism Dynamics. Social and Personality Psychology Compass, 16(1), 1-14.
- Edershile, E.A., & Wright, A.G.C. (2021). Fluctuations in grandiose and vulnerable narcissistic states: A momentary
- momentary perspective. Journal of Personality and Social Psychology, 120(5), 1386-1414. 4. Pincus, A.L., Cain, N.M., & Wright, A.G.C. (2014). Narcissistic Grandiosity and Narcissistic Vulnerability
- in Psychotherapy. Personality Disorders: Theory, Research, and Treatment, 5(4), 439-443.
  5. Ronningstam, E. F. (2009). Narcissistic personality disorder: Facing DSM-V. Psychiatric Annals, 39, 111–121.

Weill Cornell Medicine (WCM) Department of Psychiatry, 525 E68th St. New York, NY 10065, is recognized by the New York State Education Department's State Board for Psychology as an approved provider of continuing education for licensed psychologists #PSY-0192. WCM is approved by the American Psychological Association to sponsor continuing education for psychologists. WCM maintains responsibility for this program and its content. The New York Presbyterian Hospital Department of Social Work is recognized by New York State Education Department's State Board for Social Work as an approved provider of continuing education for licensed social workers # SW 0155.