

Noelle C. Schlenk, MA

Curriculum Vitae

PhD Student and Research Data Analyst

noelle.schlenk@gmail.com

EDUCATION

- 2026- **Doctor of Philosophy (Epidemiology), Expected 2030**
Fairbanks School of Public Health, Indiana University, Indianapolis, IN
- 2021-2023 **Master of Arts (Ecology and Evolutionary Biology)**
University of Kansas, Lawrence, KS
Advisor: Lena Hileman, PhD; Committee: Drs. Justin Blumenstiel, John K. Kelly
Thesis: *The Penstemon kunthii draft genome: Integrating a genetic map with assembled sequence data*
- 2018-2021 **Bachelor of Science (Ecology, Evolution, and Organismal Biology)**
Undergraduate Certificate in Leadership Studies
University of Kansas, Lawrence, KS
Advisor: Lena Hileman, PhD
Honors Thesis: *Is CRABS CLAW gene expression associated with nectary development in Penstemon?*

EMPLOYMENT

- 2022- **Research Data Analyst**
Immune Behavioral Health Clinic and Research Group
Stanford University School of Medicine

SKILLS

Statistics & Epidemiology: Study design, hypothesis testing, epidemiologic measures (odds ratios, incidence rates), survival analyses, regressions, mixed models, longitudinal data methods, PCA, data visualization

Genomics & Bioinformatics: Sequence alignment (BLAST, BWA, AliView), variant calling (SAMtools, Picard, GATK), phylogeny estimation, QTL mapping (R/qtl), linkage analysis

Programming & Analysis: Python (preferred), R, SAS, Shell, Rust, Git/GitHub

Systems & Tools: REDCap, Epic, HPC clusters, cloud computing platforms

HONORS AND AWARDS

- 2025 **Co-first author of “Best Poster”**
The BRAIN Foundation Synchrony Conference (Monterey, CA)
- 2022 **Travel Award (\$500)**
Botanical Society of America
- 2021 **Self Memorial Scholar (\$10,000 + professional development)**
Madison & Lila Self Graduate Programs, University of Kansas
- 2021 **Graduation with Departmental Honors**
Department of Ecology and Evolutionary Biology, University of Kansas
- 2021 **Graduation with University Honors**
Honors Program, University of Kansas
- 2020 **Mortar Board Honor Society**
University of Kansas
- 2018-2021 **Honor Roll**
University of Kansas
- 2018 **“Traditions” Scholarship (\$16,000)**
University of Kansas
- 2018 **Music Performance Scholarship (\$16,000)**
School of Music, University of Kansas
- 2018 **Green Scholarship for Music Education (\$25,000)**
Olathe Public Schools Foundation (Olathe, KS)
- 2017-2018 **Part-Time Honor Roll**
Johnson County Community College (Overland Park, KS)

PROJECTS AND PUBLICATIONS

*Indicates co-first authorship

Peer-Reviewed Publications

1. Cunningham, J. L., Frankovich, J., Dubin, R. A., Pedrosa, E., Baykara, R. N., **Schlenk, N. C.**, Maqbool, S. B., Dolstra, H., Marino, J., Edinger, J., Shea, J. M., Laje, G., Swagemakers, S. M. A., Sinnadurai, S., Zhang, Z. D., Lin, J., van der Spek, P. J., & Lachman, H. M. (2025). [Ultrarare variants in DNA damage repair genes in pediatric acute-](#)

[onset neuropsychiatric syndrome or acute behavioral regression in neurodevelopmental disorders](#). *Developmental Neuroscience*, 47(4), 231–250.

2. Kapphahn, C., Peet, B., Gao, J., Chan, A., Farhadian, B., Ma, M., Silverman, M., Tran, P., **Schlenk, N.**, Thienemann, M., & Frankovich, J. (2025). [Sudden onset disordered eating behaviors and appetite issues in a local clinical cohort of children with pediatric acute-onset neuropsychiatric syndrome \(PANS\)](#). *International Journal of Eating Disorders*, 58(7), 1219–1232.
3. Masterson, E. E., Miles, K., **Schlenk, N.**, Manko, C., Ma, M., Farhadian, B., Chang, K., Silverman, M., Thienemann, M., & Frankovich, J. (2025). [Defining clinical course of patients evaluated for pediatric acute-onset neuropsychiatric syndrome: Phenotypic classification based on 10 years of clinical data](#). *Developmental Neuroscience*, 47(4), 270–286.
4. Yin, X., Frankovich, J., Kalaycioglu, M., Choudhury, A., Burry Jr, M. J., Kwon, W. J., Ma, M., Farhadian, B., Manko, C., Silverman, M., Xie, Y., Tran, P., **Schlenk, N.**, Utz, P. J., & Prestwood, T. R. (2026). [Interferon- \$\lambda\$ -neutralizing autoantibodies and common autoimmune disease autoantibodies in pediatric acute-onset neuropsychiatric syndrome](#). *Frontiers in Immunology*, 17, 1832833.

Book Chapters

5. Vreeland, A., **Schlenk, N.**, Mendoza, E., Ma, M., Willett, T. A., & Frankovich, J. (2025). Inflammation and OCD: Sydenham chorea, PANS/PANDAS, and other inflammatory conditions relating to OCD and other psychiatric comorbidities. In *A Clinician's Guide to Childhood Obsessive-Compulsive and Related Disorders* (pp. 223–258).

Ongoing & Submitted Work

6. Ma, M.*, **Schlenk, N.***, Sandberg, J., Schaffer, Z., Miles, K., Manko, C., Farhadian, B., Azad, K., Capestany, C., Aeruva, A., Xie, Y., Tran, P., Silverman, M., Hoffman, K. W., Thienemann, M., Frankovich, J. (2026). [Autoimmunity and Arthritis in Youth with Autism and Suspected Post-Infectious Deteriorations](#). [Pre-print]. *medRxiv*, 2026–03.
7. Frankovich, J., Dubin, R. A., Natarajan, C., **Schlenk, N.**, Pedrosa, E., Stolte, E., Rice, N., Soorajkumar, A., Vettiati, D., van der Speck, P. J., Cunningham, J. L., Lachman, H. M. (2026). [Ultrarare Variants in Genes Involved in Intestinal Microbiota and Permeability Homeostasis in Youth with Developmental and Neuropsychiatric Conditions](#). [Pre-print]. *medRxiv*, 2026–05.
8. Calaprice, D., **Schlenk, N.**, Gunther, S., Vreeland, A., Silverman, M., Xie, Y., Tran, P., Manko, C., Ma, M., Farhadian, B., Thienemann, M., Frankovich, J. Toward Better Clinical Trial Endpoints in PANS: Longitudinal Validation of the PANS 31-Item and PANS-21 Symptom Scales and Comparison to the CY-BOCS. [Under review].

9. Miles, K.*, **Schlenk, N.***, Gunther, S., Leonard, S., Gao, S., Manko, C., Farhadian, B., Ma, M., Xie, Y., Tran, P., Silverman, M., Hoffman, K. W., Thienemann, M., Frankovich, J. Prevalence and Predictors of Pain and Fatigue in Pediatric Acute-Onset Neuropsychiatric Syndrome (PANS). [Manuscript in progress for submission to *BMJ*].
10. Kizer, K.*, **Schlenk, N.***, Hollenbach, J., Frankovich, J. HLA-B and KIR in Pediatric Acute-Onset Neuropsychiatric Syndrome. [Manuscript in progress for submission to *JAMA*].
11. **Schlenk, N.**, Moore, K., Ioannidis A., Bustamante, C., Frankovich, J. Pathogenic CFTR Mutations in Patients with PANS. [Manuscript in progress, journal undecided].
12. Moore, K., **Schlenk, N.**, Ioannidis, A., Frankovich, J., Bustamante, C. Rare Variant Burden in PANS and Controls. [Manuscript in progress, journal undecided].

Conference and Poster Presentations

13. **Schlenk, N.**, Katzer, A., & Hileman, L. (2021). *Is CRABS CLAW gene expression associated with nectary development in Penstemon?* [Poster presentation]. Botany Conference, virtual. Also presented at: University of Kansas Undergraduate Research Symposium, virtual.
14. **Schlenk, N.**, Hileman, L., & Wessinger, C. (2022). *The Penstemon kunthii draft genome: Integrating a genetic map with assembled sequence data* [Poster presentation]. Botany Conference, Anchorage, AK.
15. Kizer, K., Augusto, D., Montero-Martin, G., **Schlenk, N.**, Horgan, J., Boquett, J. A., Wade, K. J., Oksenberg, J., Fernandez-Vina, M., Kichula, K., Norman, P. J., Frankovich, J., & Hollenbach, J. A. (2023). HLA-Bw4 is associated with Pediatric Acute-Onset Neuropsychiatric Syndrome (PANS). *HLA*, 101(4), 365. Also presented at: 36th European Immunogenetics and Histocompatibility Conference, Nantes, France.
16. Kizer, K., Boquett, J. A., Augusto, D., Montero-Martin, G., **Schlenk, N.**, Horgan, J., Boquett, J. A., Wade, K. J., Oksenberg, J., Fernandez-Vina, M., Kichula, K., Norman, P. J., Frankovich, J., & Hollenbach, J. A. (2024). KIR3DL1*004 is associated with Pediatric Acute-Onset Neuropsychiatric Syndrome (PANS). *Human Immunology*, 85, 111011. Also presented at: American Society for Histocompatibility and Immunogenetics 50th Annual Meeting, Anaheim, CA.
17. Moreno-Grau, S., Bustamante, C. I., **Schlenk, N.**, Mourtzi, N., Mas-Monserrat, D., Michael, M. T., Wall, J. D., Ioannidis, A., Katsanis, N., Frankovich, J., & Bustamante, C. D. (2024). Identification of immune-related rare variants in a cohort of PANS/PANDAS patients [Conference presentation]. The International Immunocompromised Host Society Symposium.

18. Zreik, Z., Lee, A., Mannion, N., Georgiou, C., Ellis, M., **Schlenk, N.**, Ma, M., Bauer, K., Farhadian, B., & Frankovich, J. (2024). Analysis of preceding illness episodes 9 months prior to acute and hyperacute PANS onset [Poster presentation]. Stanford HB-REX, Stanford, CA.
19. Kendell, S., Hinton, S., Ayala, N., Vo, K., Miles, K., Saini, T., **Schlenk, N.**, Ma, M., Farhadian, B., Willett, T., & Frankovich, J. (2024). Summary of common antibiotics used in the treatment of pediatric acute-onset neuropsychiatric syndrome (PANS) [Poster presentation]. Stanford HB-REX, Stanford, CA.
20. Miller, I. K. T., Vreeland, A. J., **Schlenk, N. C.**, & Frankovich, J. (2025). Pre-diagnosis neuropsychiatric symptoms in a cohort of children with pediatric acute-onset neuropsychiatric syndrome (PANS) [Poster presentation]. Stanford Symposium of Undergraduate Research, Stanford, CA. Also presented at: Stanford Pediatrics Research Retreat, Stanford, CA.
21. Vo, K., Ayala, N., Hinton, S., Kendall, S., Miles, K., Saini, T., Ellis, M., **Schlenk, N.**, Ma, M., Farhadian, B., Willett, T., & Frankovich, J. (2025). Navigating the neuropsychiatric storm: An analysis on usage of neurotropic medications for PANS [Poster presentation]. Stanford Pediatrics Research Retreat, Stanford, CA. Also presented at: Stanford MCHRI Symposium, Stanford, CA.
22. Schaffer, Z. J., Ma, M., Vreeland, A., Farhadian, B., Silverman, M., Thienemann, M., Manko, C., **Schlenk, N.**, & Frankovich, J. (2025). Inflammation & neuropsychiatric deteriorations in autism [Poster presentation]. Stanford Pediatrics Research Retreat, Stanford, CA.
23. Vreeland, A., Miller, I., **Schlenk, N.**, Ma, M., Farhadian, B., Silverman, M., Frankovich, J. (2025). Characterizing the Prevalence and Pattern of Neuropsychiatric Symptoms Prior to a Pediatric Acute-Onset Neuropsychiatric Syndrome (PANS) Diagnosis [Poster presentation]. 30th Annual OCD Conference, Chicago, IL.
24. **Schlenk, N.**, Ma, M., Sandberg, J., Schaffer, Z., Miles, K., Farhadian, B., Manko, C., Willett, T., Xie, Y., Tran, P., Silverman, M., Thienemann, M., & Frankovich, J. (2025). Youth with ASD and neuropsychiatric deteriorations: Future development of arthritis and other autoimmune conditions [Poster presentation]. The BRAIN Foundation Synchrony Conference, Monterey, CA.
25. Miles, K.*, **Schlenk, N.***, Ma, M., Sandberg, J., Farhadian, B., Manko, C., Capestany, C., Azad, K., Xie, Y., Tran, P., Silverman, M., Thienemann, M., & Frankovich, J. (2025). Youth with ASD and neuropsychiatric deteriorations: High prevalence of joint inflammation in patients reporting fibromyalgia symptoms [Poster presentation]. The BRAIN Foundation Synchrony Conference, Monterey, CA. **Awarded "Best Poster."** Also presented at: Stanford MCHRI Symposium, Stanford, CA.

26. Moore, K., **Schlenk, N.**, Frankovich, J., Bustamante, C. (2025). SPROUT: Hypothesis-driven, population-guided gene-set enrichment for tiny cohorts [Poster presentation]. Stanford Medicine, Department of Genetics Retreat, Stanford, CA.
27. **Schlenk, N.***, Ma, M.*, Azad, K.*, Sandberg, J., Miles, K., Manko, C., Farhadian, B., Capestany, C., Aeruva, A., Xie, Y., Tran, P., Silverman, M., Hoffman, K., Thienemann, M., & Frankovich, J. (2026). Arthritis and Other Autoimmune Conditions in Youth with Autism and Suspected Post-Infectious Deteriorations [Poster presentation]. Pediatric Academic Societies Meeting, Boston, MA. Also presented at: Stanford Pediatrics Research Retreat, Stanford, CA.
28. **Schlenk, N.***, Kizer, K.*, Manko, C., Farhadian, B., Ma, M., Xie, Y., Tran, P., Silverman, M., Thienemann, M., Martin, G., Osoegawa, K., Fernandez-Vina, M., Hollenbach, J., & Frankovich, J. (2026). HLA-B and KIR in Pediatric Acute-Onset Neuropsychiatric Syndrome (PANS) [Poster presentation]. Pediatric Academic Societies Meeting, Boston, MA. Also presented at: Stanford Pediatrics Research Retreat, Stanford, CA.

Other Contributions

29. Smith, A. (2020). *Strategies Used for Goal-Congruent Sexual Decision Making in Situations of Ambivalence* (Master's thesis, University of Kansas).
30. Katzer, A. M. (2024). *Under the Petals: The Genetics and Developmental Evolution of the Nectar Reward in Penstemon* (Doctoral dissertation, University of Kansas).
31. Katzer, A. M., Wessinger, C. A., Anaya, B. M., & Hileman, L. C. (2025). [CRABS CLAW-independent floral nectary development in Penstemon barbatus](#). *American Journal of Botany*, 112(6), e70058.
32. Stanford Immune Behavioral Health Clinic (2025). Patient Questionnaire.

GRANT APPLICATIONS, PENDING, AND CURRENT SUPPORT

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| 2025 | National Institutes of Health (NIH) R01 , <i>Towards a Better Understanding of the Neurological Effects of Infection-Associated Chronic Illness</i> .
Role: Key Personnel (PIs: J. Frankovich, Stanford; A. Iwasaki, Yale).
Status: Submitted, pending review. |
| 2025 | National Institutes of Health (NIH) R21 , <i>Anti-streptococcal Antibody Burden in Pediatric Acute-Onset Neuropsychiatric Syndrome (PANS): An Epidemiologic and Translational Study Using S. Pyogenes Antigen Arrays</i> .
Role: Key Personnel (PIs: J. Frankovich, Stanford; L. Song, Arizona State University).
Status: Submitted, pending review. |

- 2026 **California Institute for Regenerative Medicine (CIRM) DISC4**, *Investigating Systemic Inflammation, Blood Brain Barrier Disruption, and Microglial Activation as Drivers of PANS Using Multi-omics and a Human Neuro-Immune Platform*
Role: Key Personnel (PI: J. Frankovich, Stanford).
Status: Submitted, pending review.
- 2026 **NIH T15 Institutional Training Fellowship**, *The Indiana Training Program in Public & Population Health Informatics*
Role: Graduate Student Appointee

TEACHING

- 2022 **Graduate Teaching Assistant, Biostatistics**
Department of Ecology and Evolutionary Biology, University of Kansas
- 2019-2020 **Undergraduate Teaching Assistant, "Witchcraft Through the Ages"**
Honors Program, University of Kansas
- 2016-2022 **Private Music Instructor**
Kansas City Metropolitan Area

SERVICE

- 2022-2023 **President, Graduate Student Organization**
Department of Ecology and Evolutionary Biology, University of Kansas
- 2022-2023 **Graduate Mentor**
Jayhawk BioResearch Scholars Program, University of Kansas
- 2021-2023 **Student Leader, Madison & Lila Self Memorial Scholars**
Madison & Lila Self Graduate Programs, University of Kansas
- 2021-2022 **Chair of Outreach, Graduate Student Organization**
Department of Ecology and Evolutionary Biology, University of Kansas
- 2019-2020 **Member, University Marching Jayhawks and Pep Bands**
School of Music, University of Kansas
- 2019-2020 **Peer Educator**
Sexual Assault Prevention and Education Center, University of Kansas
- 2019 **Student Volunteer**

Emergency Department, Olathe Health (Olathe, KS)

OTHER ACTIVITIES

- 2023-2025 **Assistant Florist, Special Events (Volunteer)**
Sweet Pea the Flower Truck (Castro Valley, CA)
- 2023-2025 **Secretary, Bowling League**
Earl Anthony's Dublin Bowl (Dublin, CA)
- 2024 **Wedding Officiant**
Kansas City Metropolitan Area
- 2015- **Freelance Pit Orchestra Musician (Woodwinds)**
Kansas City Metropolitan Area