NIH Office of Dietary Supplements (ODS) 2024–2025 Seminar Series

Advancing Botanical Dietary Supplement Research Through Collaboration: The Mass Spectrometry Metabolomics Collaboration

Preston Manwill, Ph.D.
University of North Carolina
Greensboro, NC

Wednesday, May 21 ● 11 a.m. – 12 p.m. ET

Registration is required to join the webinar**.**

Preston Manwill is a Postdoctoral Associate in the Laboratory of Professor Nadja Cech in the Department of Chemistry and Biochemistry at The University of North Carolina at Greensboro. He received his B.S. in biology with a minor in chemistry from Southern Utah University and his Ph.D. in pharmaceutical sciences from The Ohio State University, under the supervision of Dr. H. Liva Rakotondraibe. During his graduate research he employed natural products techniques to explore endophytic bacteria as an untapped source for drug discovery and to probe the structure-activity relationship of drimane sesquiterpenes against Aedes aegypti mosquitoes.

As a postdoctoral researcher, he has applied mass spectrometry-based metabolomics and quantitative analytical techniques to study the chemistry of botanical dietary supplements. His analytical work has supported two multi-institutional cooperative agreements with the National Institutes of Health: The Center for High Content Functional Annotation of Natural Products and The Center of Excellence for Natural Product-Drug Interaction Research. He is interested in unraveling the science of botanicals to drive drug discovery from plant sources and to investigate the safety and efficacy of botanical dietary supplements.

Recent Publications

1. Oyanna V, Garcia-Torres KY, Bechtold BJ, Manwill PK, et al. Goldenseal-mediated inhibition of intestinal uptake transporters decreases metformin systemic exposure in mice. *Drug Metab Dispos*. 2023 Nov;51(11):1483–1489. DOI: 10.1124/dmd.123.001360. PMID: 37562957 PMCID: PMC10586506
2. Khadilkar A, Bunch ZL, Wagoner J, Manwill PK; et al. Modulation of in Vitro SARS-CoV-2 Infection by Stephania tetrandra and Its Alkaloid Constituents. *J Nat Prod*. 2023 Apr 28;86(4):1061–1073, DOI: 10.1021/acs.jnatprod.3c00159. PMID: 37043739 PMCID: PMC10108733
3. Manwill PK, Flores-Bocanegra L, Khin M, Raja HA. Kratom (Mitragyna speciosa) validation: quantitative analysis of indole and oxindole alkaloids reveals chemotypes of plants and products. *Planta Med*. 2022 Aug:88(9–10):838–857. DOI: 10.1055/a-1795–5876. PMID: 35468648 PMCID: PMC9343938

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