NIH Office of Dietary Supplements (ODS)
2023–2024 Seminar Series

Using Metabolomics, Dietary Supplements, and On-line Databases to Enable Precision Nutrition

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Alberta, Canada

Wednesday, January 10 ● 11 a.m. – 12 p.m. ET

Join the Webinar
Access code: 161 152 1005 Password: ODSseminar (63773646 from phones)

David Wishart, Ph.D., is a Distinguished University Professor in the Departments of Biological Sciences and Computing Science at the University of Alberta. Dr. Wishart's research interests are wide ranging, covering metabolomics, analytical chemistry, food chemistry, natural product chemistry, computational chemistry, protein chemistry, molecular biology, and machine learning. He has developed several widely used techniques based on nuclear magnetic resonance (NMR) spectroscopy and mass spectrometry to characterize the structures of both small and large molecules.

As part of this effort, Dr. Wishart has led the Human Metabolome Project (HMP) for nearly 20 years. This multi-university, multi-investigator project catalogs known chemicals in human tissues and biofluids. Using a variety of methods, Dr. Wishart and his colleagues have identified or found evidence for more than 250,000 metabolites in the human body, which is archived on a freely accessible web resource called the Human Metabolome Database (HMDB). More recently, Dr. Wishart's efforts have focused on using the same metabolomic methods developed for the HMDB to help characterize the chemical constituents in various biological mixtures, foods, beverages, and natural products. These studies have led to the creation of several popular online databases including the Natural Products Magnetic Resonance Database (NP-MRD), FooDB (the food constituent database), PhenolExplorer (a food polyphenol database), PhytoHUB (a food phytochemical database), and MarkerDB (a biomarker database). These resources have been used to develop precision nutrition strategies and nutritional interventions by various groups. Over the course of his career, Dr. Wishart has published more than 500 research papers in high profile journals on a variety of subject areas that have been cited more than 125,000 times. He received his Ph.D. in Biochemistry, Biophysics and Molecular Biology from Yale University.

Recent Publications

1. LeVatte M, Keshteli A H, Zarei P, Wishart D S. Applications of Metabolomics to Precision Nutrition. *Lifestyle Genom*. 2022 15(1):1 –9. PMID: 34518463 DOI: 10.1159/000518489
2. Maruvada P, Lampe J W, Wishart D S, Barupal D, et al. Perspective: Dietary Biomarkers of Intake and Exposure-Exploration with Omics Approaches. *Adv Nutr*. 2020 Mar 1;11(2):200 –215. PMID: 31386148 PMCID: PMC7442414 DOI: 10.1093/advances/nmz075
3. Wishart D S, Sayeeda Z, Budinski Z, Guo A, et al. NP-MRD: the Natural Products Magnetic Resonance Database. *Nucleic Acids Res*. 2022 Jan 7;50(D1):D665 –D677. PMID: 34791429 PMCID: PMC8728158 DOI: 10.1093/nar/gkab1052

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