



Nathalie J. Plundrich, PhD



Food Technologist
-- SinnovaTek --

Associate Member CMI

Ph.D. Food Science
M.S. Food Science
B.S. Bio-and Process Technology

PhD Committee: Drs. Mary Ann Lila, E. Allen Foegeding, Jonathan Allen, and Scott Laster

Address:
SinnovaTek
2609 Discovery Drive STE 115
Raleigh NC 27616

Phone: 919-332-1826

Email:
nplundrich@sinnovatek.com

PhD Thesis Title: Protein-Polyphenol Complexation to Reduce Food Protein Allergenicity

Research emphasis:

My research focused on a green chemistry approach to complex allergenic food protein sources with plant polyphenols ultimately resulting in dry, stable hypoallergenic food ingredients with potential use in immunotherapy and food applications.

At SinnovaTek, and its subsidiary, SinnoVita, I currently further the research and commercialization efforts of this and a related patented technology for its food functional/value added applications.

Applications:

- Functional Foods
- Immunotherapy

Research Strengths:

- Food Allergy
- Plant Chemistry
- Food Chemistry
- Immunology

Selected Publications:

Plundrich, N. J. , Cook, B. T. , Maleki, S. J., Fourches, D., Lila, M. A. Binding of peanut allergen Ara h 2 with Vaccinium fruit polyphenols. *Food Chem* 2019, 284, 287-295

Plundrich, N., Bansode, R., Foegeding, E.A., Williams, L., Lila, M.A. Protein-bound Vaccinium fruit polyphenols decrease IgE binding to peanut allergens and RBL-2H3 mast cell degranulation in vitro. *Food Funct* 2017, 8, 1611-1621

Plundrich, N.J., White, B.L., Dean, L.L., Davis, J.P., Foegeding, E.A., Lila M.A. Stability and immunogenicity of hypoallergenic peanut protein-polyphenol complexes during in vitro pepsin digestion. *Food Funct* 2015, 6, 2145 – 2154

Plundrich, N.J., Kulis, M., White, B.L., Grace, M.H., Guo, R., Burks, A.W., Davis, J.P., Lila, M.A. Novel strategy to create hypoallergenic peanut protein-polyphenol edible matrices for oral immunotherapy. *J Agric Food Chem* 2014, 62, 7010 -7021