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Undergraduate Research: Measuring components of tea using multidimensional fluorescence spectroscopy with chemometrics

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ABSTRACT:

Tea contains highly fluorescent phenolic compounds that largely contribute to its antioxidant capacity. Multidimensional fluorescence spectroscopy with the chemometric tool, parallel factor analysis (PARAFAC), was investigated as an alternative to the traditional Folin-Ciocalteu reagent method for total phenol quantification and the Trolox Equivalence Antioxidant Capacity (TEAC) assay for total antioxidant strength. The fluorescence technique shows potential of being able to provide information beyond total phenol concentration and antioxidant capacity by revealing the spectral characteristics of different forms of phenols in tea samples that have importance in health and diet applications.

BIO:

Amie Sankoh is a graduate of the Laboratory Science Technology program at the National Technical Institute for the Deaf (NTID) and is currently enrolled in RIT's Biochemistry program. She completed two co-ops with Dow Chemical and another with the University of Rochester. She has received awards from the Rochester Section of the American Chemical Society and NTID.