

# Kinetic Modelling of Algal Oil Sensory Data for Shelf-Life Determination

**Speaker:** *Dr. Stephen E. Lumor*  
**Host:** *Dr Yang Hongshun*

## ABSTRACT:

Shelf-life assessment can be an arduous task, particularly for polyunsaturated oils because several flavor notes are usually produced during oil degradation and it is difficult to pin-point which flavor notes impart oil quality the most. In cases where the flavor note has been identified, it is usually difficult to confidently determine the level of the analyte that corresponds to the end of shelf-life. In this presentation, the use of sensory data for modeling shelf-life of algal oil, which is rich in polyunsaturated fatty acids, will be demonstrated, and the use of the shelf-life model to predict the amount of shelf-life remaining, during storage or distribution, as a function of temperature and time will be demonstrated as well. Moreover, the integration of analytical and sensory data to determine the level of an analyte responsible for quality loss will be discussed.

**Date:** 6 Sept, Thursday

**Venue:** S14-06-19

**Time:** 4pm to 5pm

## Biography:

*Dr. Stephen E. Lumor* is a senior chemist at Bunge Loders Croklaan, a leading producer of shortening and confectionery fats, which is located in Channahon, IL, USA. Prior to joining Bunge Loders Croklaan, Dr. Lumor served as an assistant professor of food chemistry at Delaware State University (DSU). His research program focused on (1) the development of value-added dairy products by synthesizing and incorporating beta-sitosteryl fatty acid esters, (2) lipid oxidation and shelf life modeling, (3) the development of lipid-based polymer films, and (4) the effects of food toxicants on differential gene expression as well as protein and lipid profiles in human cell lines. Dr. Lumor's postdoctoral work was at the University of Minnesota, where he studied the inactivation kinetics of toxins that might be intentionally added to the food supply. Dr. Lumor earned his M.S. and Ph.D. degrees in Food Science and Technology from The University of Georgia, after obtaining his B.Sc. from the University of Ghana. While at The University of Georgia, he investigated the synthesis of *trans*-free structured lipids for use as alternatives to partially hydrogenated fat in food formulations. His scholarly work has resulted in fifteen peer-reviewed publications and several presentations at technical meetings.

**All are welcome**