



Tanner Lecturer Announced: Dr. Gary Reineccius
53rd Chicago Section IFT Tanner Lecture
Monday, May 18, 2015
Café La Cave

Advances in Encapsulation Research for Extending the Shelf-life of Oxidizable Food Ingredients

Despite many years of research, the food and flavor industries still struggle with improving the shelf-life of oxidizable food components (e.g. flavorings, polyunsaturated triglycerides, natural pigments, vitamins, etc.). Microencapsulation has been a common means of offering some protection to these ingredients.

Among a variety of microencapsulation methods, spray drying is the most widely used process in the food and beverage industries for encapsulation: cost, availability and flexibility of the process make it a good choice. Recently new tools have become available to optimize the formulation used in spray drying and the processing parameters. Substantial understanding has been gained using these new tools that translates into manufacturing products with longer shelf-lives.

This presentation will provide an overview of global research focused on optimizing spray drying of both flavorings and fish oils. The presentation will end with where I believe we have opportunity to further improve the performance of this process.



Gary Reineccius, Ph.D., is a Professor and past Department Head in the Department of Food Science and Nutrition at the University of Minnesota. He has been actively involved in flavor research for more than 44 years. During this time he has published over 230 research articles. Dr. Reineccius has spent sabbatical leaves with Fritzsche Dodge and Olcott (New York, flavor creation and production), Nestle (Switzerland, process flavors) and Robertet S.A. (France, taste modifiers and manufacturing).

Dr. Reineccius has taught courses in Food Processing, Food Chemistry, Food Analysis, and Flavor Chemistry and Technology. He has written a College textbook on food flavors: the second edition of this book became available in 2006. This was the first textbook in the flavor area which combined both flavor chemistry and technology. Dr. Risch and he edited and were major contributors to two books on flavor encapsulation. He is the sole author of the Source Book of Flavors and coeditor of Heteroatomic Flavor Compounds in Foods.

Dr. Reineccius' achievements have been recognized by several local and international organizations. He is an honorary member of the Society of Flavor Chemists. He has been granted the Palmer Award for his contribution to chromatography by the Minnesota Chromatography Forum. He has received the Distinguished Achievement and Service in Agricultural and Food Chemistry Award and been honored by being made a Fellow by the American Chemical Society. He has been presented the Stephen S. Chang Award by the Institute of Food Technologists (first flavor chemist to be so honored). These are the highest awards given to individuals in the flavor area. In 2006 he was selected to receive the new FEMA (Flavor Extract Manufacturers Association) award. This award comes from the largest flavor industry association in the US. His selection as the *first* recipient of this award reflects their opinion of his standing in the profession.

He often speaks at public schools and other groups. His favorite lay topics are chocolate (he spent 3 years researching chocolate flavor for his Ph.D. thesis) and the chemistry of gourmet cooking. From a professional standpoint, his favorite topic is flavor encapsulation. He has been actively engaged in research in this area since 1964.