

Saturday, July 11, 2026		
Time	Topic	
8- 8:15 a.m.	Welcome and Introductions	Brady Carter, PhD <i>Carter Scientific Solutions</i>
8:15-10 a.m.	Theory of Water Activity	Lisa Mauer, PhD <i>Purdue University</i>
10-10:10 a.m.	<i>Break</i>	
10:10-12 p.m.	Water Activity Measurement	Brady Carter, PhD <i>Carter Scientific Solutions</i>
12-1 p.m.	<i>Lunch</i>	
1-2:30 p.m.	Moisture Sorption Isotherms	Lisa Mauer, PhD <i>Purdue University</i>
2:30-2:40 p.m.	<i>Break</i>	
2:40-4 p.m.	Shelf Life Simplified Explained	Brady Carter, PhD <i>Carter Scientific Solutions</i>
Sunday, July 12, 2026		
Time	Topic	
8-9 a.m.	Mode of Food Failure - Microbial Spoilage	Michelle Richardson, PhD <i>MJR Food Science Consultant</i>
9-10:30 a.m.	Mode of Food Failure - Chemical Change	Michelle Richardson, PhD <i>MJR Food Science Consultant</i>
10:30-10:40 a.m.	<i>Break</i>	
10:40-12:30 p.m.	Mode of Food Failure – Physical Changes	Lisa Mauer, PhD <i>Purdue University</i>
12:30-1:30 p.m.	<i>Lunch</i>	
1:30-2:30 p.m.	Packaging Strategies to Improve Shelf Life	Michelle Richardson, PhD <i>MJR Food Science Consultant</i>
2:30-2:40 p.m.	<i>Break</i>	
2:40-4 p.m.	Shelf-life Modeling – Let’s Do the Math	Brady Carter, PhD <i>Carter Scientific Solutions</i>



Brady Carter, PhD

Senior Scientist at Carter Scientific Solutions

Dr. Brady Carter is a Senior Research Scientist with Carter Scientific Solutions. He specializes in Water Activity, moisture sorption, moisture determination, agricultural production, flow cytometry, multi-spectral imaging, and plant science. Dr. Carter earned his Ph.D. and M.S Degree in Food Engineering and Crop Science from Washington State University and a B.A. Degree in Botany from Weber State University. He has 24 years of experience in research and development and currently provides scientific support to multiple companies. He has been the instructor for training seminars in over 23 different countries and has provided on-site training for companies around the world. He has authored over 20 white papers on water activity, moisture sorption isotherms, and complete moisture analysis. He has participated in hundreds of extension presentations and has given talks at numerous scientific conferences. He developed the shelf-life simplified paradigm and hygrothermal time shelf-life model and is the leading expert in applying water activity to shelf-life prediction. He also has successfully implemented models for determining the moisture content of field crops at harvest using on combine harvest monitoring systems.



Lisa Mauer, PhD

Professor and Associate Vice Provost at Purdue University

Lisa Mauer is a professor in the Department of Food Science and the Whistler Center for Carbohydrate Research and associate vice provost for faculty affairs at Purdue University. She joined IFT in 1992 and is now an IFT Fellow. Her research focuses on food materials science structure-function questions, emphasizing low and intermediate-moisture products, water-solid interactions (including deliquescence), food ingredient architecture, and micronutrient stability, for which she has received numerous awards, including the IFT Marcel Loncin Prize and the IFT Research and Development Award. Mauer also enjoys teaching, mentoring, and advising students. She is an inducted member of Purdue's Teaching Academy and the Book of Great Teachers and has been a longtime contributor to IFT's workshops.



Michelle Richardson, PhD

Founder at MJR Food Science Consultant

Michelle Richardson is currently a food science consultant. Previously, she was a senior research food technologist with the Department of Defense, possessing over 35 years of experience in conceptualizing and managing both basic and applied innovative food technologies. Throughout her career, she has managed numerous science and technology efforts independently and in collaboration with government, industry, and academic partners. Her areas of expertise include product development, water activity control, extended shelf life, food safety, intermediate moisture foods, bakery items, irradiated entrees, egg products, and browning reactions.

Her research has focused on advancing novel food processes to develop and optimize safe, nutritious, and highly acceptable foods for military and space feeding programs. These efforts have resulted in the development of high-quality items designed to sustain warfighters and astronauts as well as various publications and presentations.