



SOUTHWEST RESEARCH INSTITUTE



Introduction to Microencapsulation

*Solar Eclipse Edition**

Southwest Research Institute
6220 Culebra Rd. • San Antonio, TX

April 8-10, 2024

Course Overview

SwRI is hosting an Introduction to Microencapsulation 2.5 day workshop. This workshop will introduce participants to microencapsulation and nanoencapsulation. Major common encapsulation techniques and formulations will be presented, along with examples, equipment, strengths, weaknesses, and state of the art. Additional aspects of encapsulation to be discussed include materials, process scale, and application examples.

Cost

The course cost is \$995 USD per registrant. Visit microencapsulation.swri.org to register. Registration includes course instruction, training material provided to download, facility tour, lunch, and process demonstrations.

Course Topics

- Atomization: spray drying, spray chilling, spray congealing, electrostatic
- Spray coating: fluid bed coating, granulation
- Coextrusion: annular jet atomization, vibrating nozzle, microfluidics
- Emulsion-based processes: coacervation, interfacial polymerization, in situ polymerization, liposomes, solvent evaporation
- Nanoencapsulation
- Encapsulation materials
- Bioencapsulation
- Economics of encapsulation
- Scale-up considerations
- Applications

**Weather permitting, time and glasses will be provided to view the total solar eclipse on April 8.*

For more information,
please contact:

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Sign up
for
e-mail
updates



Day 1 - Physical Techniques		
Topic:	Start	End
REGISTRATION & BREAKFAST OPENS	8:00 AM	8:30 AM
Greeting/Introduction	8:30 AM	9:00 AM
Overview of Microencapsulation	9:00 AM	10:00 AM
BREAK	10:00 AM	10:15 AM
Atomization: Spray Drying, Chilling, and Prilling	10:15 AM	11:05 AM
Spinning Disc	11:05 AM	11:45 AM
DEMO spray drying, TOUR spinning disc	11:45 AM	12:25 PM
LUNCH and SOLAR ECLIPSE VIEWING 🕶️	12:25 PM	1:55 PM
Fluid Bed Coating	1:55 PM	2:40 PM
DEMO Fluid bed, TOUR cGMP/Scale-up	2:40 PM	3:20 PM
BREAK	3:20 PM	3:30 PM
Coextrusion	3:30 PM	4:15 PM
DEMO Brace/Dolomite, TOUR Encapsulation Operations	4:15 PM	4:45 PM
BREAK	4:45 PM	5:00 PM
Applications	5:00 PM	5:30 PM
DAY 1 END	5:30 PM	6:30 PM
Day 2 - Emulsions and Materials		
Greetings/Review	8:30 AM	8:50 AM
Interfacial Polymerization	8:50 AM	9:20 AM
In Situ Polymerization	9:20 AM	9:40 AM
Coacervation	9:40 AM	10:25 AM
BREAK	10:25 AM	10:45 AM
DEMO Emulsions, TOUR Extrusion Suite	10:45 AM	11:15 AM
Solvent Evaporation/Extraction	11:15 AM	12:00 PM
Nanoencapsulation	12:00 PM	12:30 PM
LUNCH	12:30 PM	1:30 PM
Characterization	1:30 PM	2:15 PM
TOUR Analytical labs and pilot-scale spray dryer	2:15 PM	2:45 PM
BREAK	2:45 PM	3:05 PM
Core Materials	3:05 PM	3:30 PM
Shell Materials	3:30 PM	4:00 PM
BREAK	4:00 PM	4:20 PM
Economics	4:20 PM	4:50 PM
Wrap-up, Questions	5:00 PM	5:15 PM
Day 3 - Special Topics		
BREAKFAST TACOS	8:00 AM	8:15 AM
Safety & Scale-up	8:15 AM	9:15 AM
BREAK	9:15 AM	9:30 AM
Encapsulation of Biologicals	9:30 AM	10:15 AM
Challenges and Future	10:15 AM	10:45 AM
Final Q&A, CONCLUDE	10:45 AM	11:00 AM

