



SOUTHWEST RESEARCH INSTITUTE



Introduction to Microencapsulation

Southwest Research Institute
6220 Culebra Rd. • San Antonio, TX
March 25-26, 2019

Course Overview

This course 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. Participants will tour the encapsulation facilities at SwRI to observe examples of encapsulation equipment to supplement discussions. The course is intended for scientists, engineers, or business professionals interested in learning about common and emerging encapsulation technologies.

- Encapsulation materials
- Bioencapsulation
- Economics of encapsulation
- Scale-up considerations
- Applications

Cost

The course cost is \$950 USD per registrant. Visit microencapsulation.swri.org to register. Registration includes two days of course instruction, training material provided to download, facility tour, lunch, and process demonstrations. Space is limited to 30 participants.

For more information,
please contact:

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Course Topics

- Atomization: spray drying, spray chilling, spray congealing
- 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



Day I			
Speaker:	Topic:	Start	End
	REGISTRATION	8:00 AM	8:30 AM
	Greeting/Introduction	8:30 AM	9:00 AM
	Overview of Microencapsulation	9:00 AM	9:45 AM
	Atomization: Spray Drying, Chilling, and Prilling	9:45 AM	10:30 AM
MORNING BREAK	*****BREAK*****	10:30 AM	10:50 AM
	Spinning Disc	10:50 AM	11:20 AM
	Fluid Bed Coating	11:20 AM	12:00 PM
LUNCH	*****LUNCH*****	12:00 PM	12:45 PM
	Coextrusion	12:45 PM	1:30 PM
	Solvent Evaporation/Extraction	1:30 PM	2:15 PM
AFTERNOON BREAK	*****BREAK*****	2:15 PM	2:30 PM
	Coacervation	2:30 PM	3:10 PM
	Interfacial Polymerization	3:10 PM	3:50 PM
AFTERNOON BREAK	*****BREAK*****	3:50 PM	4:05 PM
	In Situ Polymerization	4:05 PM	4:25 PM
	Nanoencapsulation	4:25 PM	4:55 PM
	Applications	4:55 PM	5:25 PM
Reception	*****BREAK*****	5:25 PM	6:10 PM
Day II			
Speaker:	Topic:	Start	End
	Greetings/Review	8:30 AM	9:00 AM
	Core Materials	9:00 AM	9:20 AM
	Shell Materials	9:20 AM	9:55 AM
MORNING BREAK	*****BREAK*****	9:55 AM	10:15 AM
	Process demonstrations & Tour - Small Group Rotations	10:15 AM	10:35 AM
	Spray drying	10:35 AM	10:55 AM
	Fluid bed coating	10:55 AM	11:15 AM
	Vibrating nozzle coextrusion	11:15 AM	11:35 AM
	Complex coacervation	11:35 AM	11:55 AM
LUNCH	*****LUNCH*****	11:55 AM	12:55 PM
	Characterization	12:55 PM	1:25 PM
	Bioencapsulation	1:25 PM	2:10 PM
AFTERNOON BREAK	*****BREAK*****	2:10 PM	2:25 PM
	Scale-up	2:25 PM	3:15 PM
	Economics	3:15 PM	3:50 PM
AFTERNOON BREAK	*****BREAK*****	3:50 PM	4:05 PM
	Stability & Shelf-Life	4:05 PM	4:25 PM
	Novel Encapsulation Processes	4:25 PM	4:55 PM
	Additional Resources & Conclusion	4:55 PM	5:15 PM
	Wrap-up	5:15 PM	5:30 PM

