

REX
Twin Screw Workshop
Reactive Extrusion Twin Screw Workshop, May 13-14, 2026, Charlotte, NC USA

1/5/26

PRELIMINARY AGENDA – subject to change

DAY 1- WED., MAY 13, 2026

CLASSROOM SESSIONS – POLYMERS CENTER

Twin screw extruders operating theory, design, tips and test results

Co-rotating intermeshing twin screw
Counter-rotating intermeshing twin screw
Intermeshing and non-intermeshing
Single screw extruders
Process section design: screws and barrels
PLC/HMI, controls architecture and system integration
Explosion proof (XP) configurations

Reactive Extrusion

Monomers+ into the twin screw extruder and polymers out
Graft reactions
Polycondensation REX
Degradation REX
Biopolymers Science

Devolatilization systems

Coarse DV, fine DV, stripping agents
Vacuum pump types and system design
Maintenance of vacuum pumps/systems

Upstream equipment

Metering systems
Solids and liquid feed streams
Pre-reactors
Thin film or falling strand evaporators
Injection systems for stripping

Downstream equipment

Die design/modeling
Gear pumps
Screw pumps
Filtration equipment
Pelletizing: strand, die face underwater and air quench
Direct extrusion: Film/sheet/tube/profile

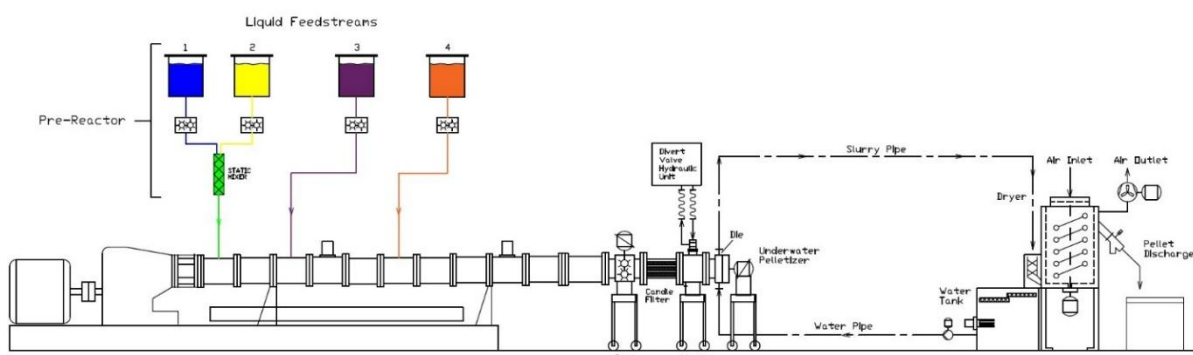
Other topics

Bioplastics REX systems
Commonly encountered REX problems
R&D techniques
Scale-up of REX process
Review of patent literature
Unique/atypical REX installations
Maintenance of REX equipment

LUNCH AND DINNER RECEPTION

DAY 2- THURS., MAY 14, 2026

An example of case studies that will be presented, for example:



TPU REX twin screw extrusion system

Thermoplastics Urethane REX system: Liquid feed streams are metered into the TSE by precision injection pumps equipped with mass-flow meters to monitor/control the rate and formulation %s. The TSE process section (L/D, screw design, vent configuration) and feed rate are designed according to the intended molecular weight and molecular weight distribution of the TPU.

Partial list of additional Day 2 topics:

Twin Screw Extrusion REX Demonstrations
Screw nomenclature
Twin screw extruder tips and maintenance
Explosion proof (XP) process environments
Screw assembly and disassembly procedures
Devolatilization via twin screw extruders
Liquid Injection

INTERACTIVE REX TWIN SCREW EXTRUSION DEMONSTRATION
DEMONSTRATION OF ANALYTICAL TESTING EQUIPMENT
TOUR OF THE PCE FACILITY

Panel discussion
Individual meetings

3PM Adjourn

In addition to Leistritz Extrusion USA staff, there will be presentations from industry experts and academia, including:

Rob Jerman, Extrusion Technology and Innovations

Matt Upton, Mahr Pumps

Ali Ayoub, College of Natural Resources, North Carolina State University

Others to be added

For more information; Gina Maiorelli, +1-908-685-2333 x610, email: gina@leistritz-extrusion.com



<https://extruders.leistritz.com/en/start>



<https://www.polymers-center.org/>