

# Plastic Films Processing TRAINING WEEK

**5-8 March 2018**  
**ATLANTA, GEORGIA**

This 4-day event on plastic films processing training week is divided into two separate seminars. One is focusing on "Polymer Science and Melt Rheology" by Prof. Kirk Cantor and other seminar is focusing on "Blown and Cast Films - Processing & Troubleshooting" This program is aimed for owners, plant managers, process engineers, floor supervisors and operators from manufacturing and research environments will benefit from the practical approach to improving quality and optimizing productivity. Senior operators, quality control and maintenance personnel will find the program particularly useful. Managers and owners will learn how to train their employees and how to select equipment for their factories.

## Polymer Science and Melt Rheology

**5-6 March 2018**

**Instructor:** Prof. Kirk Cantor

**Code:**  
PIDT-183

### Contents

- Plastics Industry Overview
- Polymers
  - Introduction to Polymers
  - Polymer Structure
  - Polymer Chemistry
  - Commercial Polymers
- Characterization
  - Introduction to Polymer Properties
  - Physical Properties
  - Mechanical Properties
  - Thermal Properties
- Rheology
  - Key Terms
  - Flow Mechanisms
  - Shear Viscosity
  - Elongational Viscosity
  - Measuring Viscosity
  - Pseudoplastic Behavior
  - Analyzing Process Flow

**(Remark:** All participants of PIDT-184 will receive a complimentary copy of the 275 page book: *Blown and Cast Film Processing and Troubleshooting*, written by Paul Waller)

## Blown and Cast Films Processing & Troubleshooting

**7-8 March 2018**

**Instructor:** Paul Waller

**Code:**  
PIDT-184

### Contents

- Basic Polymer Characteristics and Terminology
- Detailed Review of Film Extrusion Technologies
  - Blending systems
  - Grooved vs. smooth bore extruders
  - Blown and cast film die configurations for both single layer and co-extruded film lines
  - Bubble and melt curtain cooling and gauge control techniques
  - Film transport, post extrusion treatment and winding
  - Slitting and bag making technologies
- Troubleshooting Workshops
  - Dust, angle hair and snake skin
  - Screw and barrel wear
  - Surging
  - Melt Fracture
  - Interfacial Instability
  - Gels
  - Bubble and melt curtain instability
  - Surface treatment
  - Wrinkles
  - Roll geometry
  - Delamination of co-extruded structures
  - Heat sealing
  - Gauge variation

### Prof. Kirk Cantor

Kirk Cantor is Professor of Plastics and Polymer Engineering Technology at the Pennsylvania College of Technology where he has been since 1990. Prior to joining the faculty at Penn College, he was an aerospace engineer at NASA where he worked with polyethylene film for high altitude scientific balloons. Kirk received his Bachelor of Science in Aerospace Engineering from the University of Maryland and his Master of Science and PhD in Polymer Science from The Pennsylvania State University. He is the author of "Blown Film Extrusion" from Hanser Publications and of numerous articles on polymer extrusion.

### Paul Waller, P.Eng., MBA, Cert.P.P.

Paul Waller has been a renowned author and expert in film extrusion for more than 40 years. His clients include raw material suppliers, processors, end users, educational institutions and industry associations on 5 continents. Mr. Waller obtained his B.Eng. in Chemical Engineering at McGill University in Montreal and his MBA at York University Schulich School of Business in Toronto. Mr. Waller started his career at Dow Chemical's polyethylene technical services group before moving to Esso Chemical's Vinyl division. Mr. Waller designed and presented the Film Technology program for the Canadian Plastics Training Centre in Toronto and SENAI in Brazil. He was co-chair of the Canadian Plastics Sector Council, which established occupational standards for film operators and was chair of the Flexible Packaging division of the Society of Plastics Engineers. He has provided intensive in-house training to more than 1,200 operators, technicians and engineers on five continents in the last 17 years.

## Trainers

### Registration Fee / Person

- Polymer Science and Melt Rheology : \$950
- Blown and Cast Film - Processing & Troubleshooting : \$950
- Both Courses : \$1,750

**Early Bird Discount:** 10% Discount for Registrations before 31 January 2018

**Group Discount:** 10% Discount for Group of 3 or more from the same company for the same program.

**Remark:** Registration fee includes training documentation, lunch and refreshments as appropriate.

### Venue

The training venue in Atlanta will be advised to all registered delegates by 15 February 2018. The event will be held at a hotel near airport in Atlanta.

### To register

Please download registration form at [www.plastics-industry.org](http://www.plastics-industry.org) and send to *Mr. Len Czuba*

## Contact Information

**Len Czuba, President, Czuba Enterprises, Inc.**

1105 E. Adams St. Suite 1034, Lombard, IL 60148 USA

Tel: +1 630.627.9242 Cell: +1 630.632.3560 [LCzuba@czubaenterprises.com](mailto:LCzuba@czubaenterprises.com)