

# Process Control Techniques I

**FACT: 60%-80% of Control Loops are Underperforming**

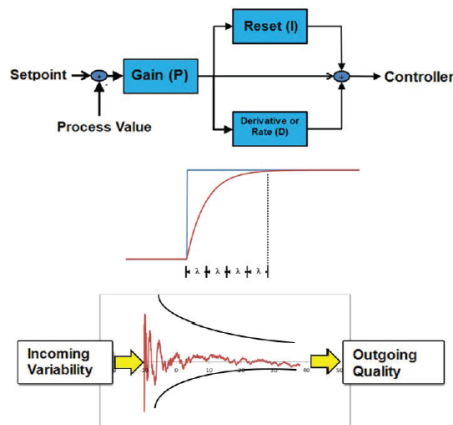
## COURSE OUTLINE:

Ironically, loop tuning is the last thing you do! Process designs, control strategies and instrumentation all have a direct impact on the effectiveness of controllers.

Process Control Techniques – Level 1 is a two day course designed to teach a systematic approach to loop tuning. It builds on the fundamentals of process dynamics, instrumentation troubleshooting, and Lambda tuning of control loops.

### Who Should Attend:

- E/I Technicians
- E/I Supervisors
- DCS/Control Engineers
- Process Engineers



Date: April 14 & 15, 2020

Time: 8:30am - 4:30pm

Cost: \$995

Location: Lakeside Process Controls  
2475 Hogan Drive  
Mississauga, ON L5M 2G6

## AGENDA

### Day 1

#### First Order Process Dynamics

- Introduction to the Bump Test
- Backlash/Stiction Test
- Measuring Process Dynamics

#### Introduction to Lab Simulation & Exercises

#### Tuning for Self-Regulating Processes

- Explanation of PID parameters
- Review of various different forms of PID Algorithm
- Quarter-Amplitude Tuning Method
- Lab Exercise: Quarter Amplitude Tuning

#### Lambda Tuning

- Choosing Lambda
- Calculation of Gain and reset tuning parameters
- Tuning examples & Lab Exercise

### Day 2

#### Lambda Tuning for cascade & interacting loops

- Lab Exercise

#### Lambda Tuning for Integrating Processes (Level Control)

- Calculation of Process Dynamics
- Tuning Objectives
- Choosing Lambda
- Calculating Tuning parameters

#### Lab Exercise for Level Control

- Calculation of Process Dynamics
- Choosing Lambda
- Calculation of Tuning Parameters

