

January 23 – 24, 2017  
The Florida Hotel & Conference Center | Orlando, Florida

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## TE-16 | Tuesday, January 24 | 8:00 AM - 5:00 PM | One Day

### Course Title: Good Weighing Practices

Instructor: Ian Ciesniewski, Mettler-Toledo, LLC

**Track:** Technician and Engineer

**Type:** Physical

**Technical Level:**

Beginner – course content is designed for students with no previous experience

**Course Description:**

Did you know that a balance calibration is incomplete, without a statement of measurement uncertainty? Or that balance uncertainty is largely independent of loaded mass? Most analytical balance weighing inaccuracies occur outside of the balance, but are attributable to influences within the control of the user.

Most calibration regimes contain elements of legacy metrology programs that have been passed directly down from mechanical weighing instruments, even though the components of measurement uncertainty exhibit themselves differently, for an electronic weighing instrument.

Many organizations “Over test” without generating much meaningful metrology.

During this session, we will break down how measurement uncertainty exhibits itself, across the capacity of an electronic balance or scale. We will cover how to assess and assign a Measurement Uncertainty budget for an electronic balance or scale, and discuss robust, risk-based approaches to the assessment and estimation of significant, contributing uncertainty components, in order to build a thorough, yet scientifically-sound risk-based metrology program for bench or floor weighing instruments.

We will cover overcoming potential errors, and optimize a balance metrology regime. Focussing on:

- Factors influencing Measurement Uncertainty
- Balance location and set up
- User testing
- Personal weighing technique
- Increasing productivity from your weighing equipment

**Instructor Biography:**

Ian has been with METTLER TOLEDO for 28 years. After positions in Europe and the US, Ian is now develops strategies for regulatory compliance and consulting, covers technical development of the North American sales force, customer training and MT's US mass metrology program. Ian holds a PhD in Organic Chemistry.