



# TEAM *Pharma*

## 9:30 AM Welcome & Bruker Company Overview

### 9:45 AM XRD Applications in the Pharmaceutical Industry

Overview of XRD applications commonly used in the Pharmaceutical industry including polymorph screening, cluster analysis, phase quantification, percent crystallinity (amorphous content), and structure solution.

### 10:15 AM Benchtop XRD in Pharma

Benchtop diffractometers are smaller, lighter, and more economical than traditional floor standing units. This comes at the price of lower power, less versatility, and reduced data quality. But not as much as you'd think! See what Pharmaceutical Applications can be done extremely well on the D2 PHASER benchtop diffractometer.

## 10:45 AM Break & Instrument Demonstrations

### 11:00 AM Small Angle X-Ray Scattering (SAXS) for Pharmaceutical Applications

Learn about the SAXS technique, instrumentation, pharmaceutical applications, and advantages over XRD.

### 11:30 AM High Throughput Screening (HTS) for XRD: Instrumentation and Techniques

High speed XRD analysis on small sample amounts typically deposited on 96-position well plates allows high throughput XRD analysis and screening of polymorphs, salts, co-crystals, solvates, hydrates, and amorphous content. We discuss state-of-the-art systems that accomplish this with blazing speed and high levels of automation.

## 12:00 PM Lunch & Instrument Demonstrations

### 1:00 PM Modern Powder XRD Systems (PXRD) and Non-Ambient Measurements

Today's powder diffractometers offer fast measurements, high resolution, modular versatility, and ease of use combined with the ability to perform non-ambient measurements such as high temp, low temp, and humidity. In this presentation, we discuss the capabilities of the D8 ADVANCE with several non-ambient stages.

### 1:30 PM Introduction to TXRF for Trace Element Analysis

The use of Total Reflection X-Ray Fluorescence Spectroscopy in the pharmaceutical industry offers a wide range of benefits including low cost of operation, ppb detection limits of elements Al to U, and easy sample preparation compared to Atomic Spectroscopy techniques. In this presentation, we introduce you to the capabilities of the S2 Picofox for trace elemental analysis of catalysts in small molecule drug manufacturing, liquid nutritional products, and pharmaceutical forensics.

## 2:00 PM Break & Instrument Demonstrations

### 2:30 PM Trace Element Analysis of Bio-Pharmaceuticals and Cell Culture Media with TXRF

Due to the fragile nature and high cost of production, minerals and trace elements in the low part per billion levels must be measured and monitored to ensure the viability of the system. Due to its speed, ease-of-sample preparation, low cost of operation, and detection limit capabilities, the S2 Picofox is a practical tool in the analysis of biopharmaceutical products.

### 3:00 PM High-Throughput Screening of Plasma Membrane Transporters and Ion Channels using Micro XRF ( $\mu$ -XRF)

The M4 Tornado (Micro XRF) utilizes polycapillary optics to focus X-rays onto a small point. In this presentation, Nathan Zahler from XR Pro, will discuss the use of Micro XRF and advantages for high throughput screening of plasma membrane transporters and ion channels to quantify multiple ions simultaneously in complex backgrounds.

## 3:30 PM Q&A, Closing Remarks & Instrument Demonstrations