

# AGENDA

# MACHINERY DIAGNOSTICS SEMINAR



The Machinery Diagnostics Seminar is an in-depth look at the vibration data formats and the machinery diagnostics data contained within each of the plot formats. Additionally, machinery malfunction topics such as rubs, unbalance looseness, instability and more are covered comprehensively. The course is designed for people that will be dealing with vibration data and diagnosing machinery problems from that data.

## Day 1:

- Introduction to Machinery Diagnostics of Fluid Film Bearing Rotating Machinery
- Timebase Data Plot Formats
- Introduction to Phase Measurements
- Phase Workshop
- Orbit Analysis and Data Plot Formats
- Polar, Bode and Vector Trend Data Plot Formats
- Fundamental Synchronous Rotor
- Average Shaft Centerline Data Plot Formats & Diagnosing Misalignment

## Day 2:

- Case History: Balancing a 13,000 Hp Induction Motor
- Malfunctions That Modify Stiffness - Rubs and Looseness
- Malfunctions That Modify Stiffness Case Histories:
  - Rub during a Propylene Compressor
  - Turbine Drive Overspeed Test
  - Rub in a 53 MW Turbine Generator
  - Rub in a Single Stage Overhung Air Compressor
  - Rub in Two Mechanical Drive Turbines

## Day 3:

- Case History: Use of Shaft Centerline Data with 1150 MW Turbine Generator
- Spectrum Data Plot Formats
- Vibration Plot Interpretation Workshop
- Proving Fundamental Synchronous Rotor Response via Synchronous Perturbation (Single Plane Balancing)
- Single Plane Balance Response Workshop
- Fluid Induced Instabilities(Oil Whirl and Oil Whip)
- Modes of Vibration and Multiplane Balance Response
- 180 MW Steam Turbine Generator Case History Workshop
- Shaft Crack Diagnostics

FOR MORE INFORMATION VISIT OUR WEBSITE OR CONTACT OUR CUSTOMER EXPERIENCE COORDINATOR, EMILY JONES