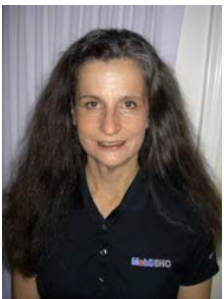




Short Course T6: Babbitted Bearing Health Assessment



Bruce W. Weathersby is the Rotating Equipment Capability Manager for INVISTA, an intermediate chemicals company. He is a 1974 BSME graduate of Lamar University. His career focus has always been on rotating equipment with the majority of his time spent in the maintenance and reliability engineering roles. Bruce also has experience with specification, selection, commissioning, mechanical integrity, repair and installation concerning rotating equipment. Throughout his career he has been involved with the protection and diagnostics of rotating machinery using permanently installed continuous vibration monitoring systems. He serves on the Board of Directors of the Vibration Institute as National Membership Chairman.



Marianne Duncanson has over 35 years' experience as a lubrication engineer for ExxonMobil. She spent more than 10 years on the lubricants technical hotline answering application questions from around the world. She currently supports the Southeast Texas area as a field Lubrication Engineer. She has conducted presentations on Foam and Air Entrainment in Lubricating Oils, Oil/Water Demulsibility, Establishing an Electric Motor Greasing Program, Lubricating Oil Analysis and Lubrication Best Practices, and has served on expert panels at Vibration Institute and other industry groups. She was an original member of the Society of Tribologists and Lubrication Engineers (STLE) Oil Monitoring Analyst (OMA) committee, and was on the editorial board of the STLE magazine Tribology and Lubrication Technology. In her spare time she serves as a paramedic for Friendswood Volunteer Fire Department.



John K. Whalen is the Technical Director for John Crane Engineered Bearings. John spent seven years at Turbodyne Steam Turbines (Dresser-Rand) as a Product Engineer in the Large Turbine Engineering Department and as an Analytical Engineer in the Rotordynamics Group of the Advanced Engineering and Development Department. In 1988, Mr. Whalen accepted a position with Centritex, as the Assistant Chief Engineer. In 1989, he was promoted to Manager of Engineering. In 1991, he left Centritex to help start TCE/Turbo Components & Engineering, Inc. At TCE, he was responsible for the Engineering Department and engineering for the product lines, which include babbitted journal and thrust bearings, labyrinth seals and related engineering services. John Crane acquired TCE in 2011. Mr. Whalen received his B.S. degree (Mechanical Engineering 1981) from Rochester Institute of Technology. He is a member of ASME, STLE and the Vibration Institute, and is a registered Professional Engineer in the State of Texas. He also holds a position on the Texas A&M Turbomachinery Symposium Advisory Committee.

Outline:

- Course Introduction
- Hydrodynamic Bearing Operation
- Condition Monitoring
 - Vibration and position monitoring
 - Bearing temperature monitoring
 - Electrostatic discharge
- Oil Analysis (including relation to maintenance strategies)
- What is Oil Analysis and why use it?
- Establishing a Successful Oil Analysis Program
- Oil Analysis Can Help Save Money and Improve Productivity
 - Other tests to consider; Front Line Tests
 - Oil analysis documentation
- Bearing Design to Avoid Failure
 - Bearing failures
 - Robust bearing design, including a distressed bearing case study and design for long life