

## **Private Instruction and Consulting on Rotordynamic Analysis and Measurements** by Dr. John M Vance

Dr. Vance is offering private instruction and consulting on rotordynamics analysis using XLRotor™ in his office overlooking Lake Travis in Austin, Texas. The rotordynamics computer analysis software entitled “XLRotor” is used for computer modeling of selected types of machinery rotors, including multi-stage and single stage compressors, gas turbines, steam turbines, turbochargers, and energy storage flywheels. If desired, the client’s machine rotor can be modeled and analyzed (at an extra cost). For clients already competent in rotordynamics, a special two-day course for learning how to use XLRotor is offered at a bargain price (see below). The XLRotor™ software has been developed and refined over many years by Dr. Brian Murphy, who first wrote a precursor program as part of his Ph.D. research under the direction of Dr. Vance. Dr. Murphy can take part in the instruction if the client desires. Dr. Vance also has extensive experience with rotordynamics measurements, including both lateral and torsional signal acquisition and analysis. The fundamentals of measurements and analysis confirmation are taught from his books *Rotordynamics of Turbomachinery* and *Machinery Vibration and Rotordynamics*, with case studies, and/or by using an instrumented rotor kit with data acquisition by National Instrument’s SVMS system in the office.

Contact Dr. Vance at [vavco@usa.net](mailto:vavco@usa.net) or 512-590-1100 to design a short course combining what you need to know about rotordynamics together with instruction on XLRotor™.

The Lake Travis area is scenic and there are a number of enjoyable and unique places to stay very near Dr. Vance’s office. An example that is only a few miles away can be seen at the link <http://www.lavillavista.com/>. Other choices close by can be seen at [http://www.laketraavis.com/main\\_lodging.htm](http://www.laketraavis.com/main_lodging.htm). The closest conventional hotel is the [Hampton Inn](#) on FM 620 in Lakeway.

### **Special Two-Day Course for Learning How to Use XLRotor™**

1. Introduction to XLRotor™ (the basic things you need to know for understanding what XLRotor™ does).
2. Definition and effect of the force coefficients for bearings and seals.
3. The students will be led step by step through creating and running the worksheets for a simple rotor-bearing system modeling a small automotive turbocharger with ball bearings.
4. A model will be provided to study and run the worksheets for a large turbocharger with journal bearings and tilt-pad bearings.
5. A model will be provided to study and run the worksheets for a multi-stage centrifugal compressor with tilt-pad bearings and a damper seal.
6. A model will be provided to study and run the worksheets for an aircraft turbine engine with squeeze film dampers.

There will be six hours of instruction on day one; four hours on day two ending at 1:30 PM to allow time for travel departures.

For up to 3 students the total fee for all three students will be \$1000.00 and the instruction will be in Dr. Vance’s office on any two days of the week.