



Oil-Free Machinery, LLC

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Summary

Daniel Lubell is the Founder and Chief Engineer of Oil-Free Machinery, LLC. Daniel has worked with industrial and aerospace turbomachinery for over 25 years with companies such as Honeywell Aerospace, Capstone Turbine, Hamilton Sundstrand, XLRotor/RMA Inc. and Calnetix Technologies. Over time, he has gained unique experience with oil-free and high speed turbomachinery rotordynamics, bearings, and production development. This led to Daniel starting Oil-Free Machinery, LLC (Washington, USA). He has been a significant contributor to several new centerline designs for both conventional and oil-free systems and participated in all phases from design to test to mass production. Daniel has published several papers on squeeze film dampers and foil bearing developments for practical turbomachinery. Daniel's work has been further recognized in 2 patents related to microturbines and several papers..

Patents

- 1) "Rotor and Bearing System for a Turbomachine," US Patent No. 7,112,036.
- 2) "Compliant foil fluid film radial bearing or seal," US Patent No. 7,614,792.

Publications

- 1) "Measurement Of Temperature And Load Vs. Bearing Displacement In A Thrust Foil Bearing: Differences Between Light Load And High Load Operation," GTP-23-1382, ASME Journal of Engineering for Gas Turbines and Power.
- 2) "Resolution of Expansion Turbine Rotordynamic Instability at a Compressed Air Energy Storage (CAES) Facility," Gas Machinery Conference 2020 Proceedings
- 3) "Rotordynamic Assessment for an Inside Out, High Speed Permanent Magnet Synchronous Motor," ICEM 2020 Proceedings
- 4) "Development of a High Speed Gas Bearing Test Rig to Measure Rotordynamic Force Coefficients," ASME Journal of Engineering for Gas Turbines and Power, Vol 133, Oct. 2011, pp. 102504-1 thru 9.
- 5) "Identification and Correction of Rotor Instability in an Oil-Free Gas Turbine," GT2008-50305, ASME Turbo Expo 2008.
- 6) "Successful Oil-Free Version of a Gas Compressor through Integrated Design of Foil Bearings," GT2008-50349, ASME Turbo Expo 2008.



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- 7) “Test Evolution and Oil-Free Engine Experience of a High Temperature Foil Air Bearing Coating”, GT2006-90572, ASME Turbo Expo 2006.
- 8) “Imbalance Response of a Test Rotor Supported on Squeeze Film Dampers,” ASME Journal of Engineering for Gas Turbines and Power, Vol. 120, 2, pp. 397-404, 1998 (ASME Paper 97-GT-12).
- 9) “Imbalance Response of a Squeeze Film Damper Supported Rotor,” Memorias del VI Congreso Latinoamericano de Turbomaquinaria, Mexico, November, pp. 89-96, 1997.