



47TH TURBOMACHINERY & 34TH PUMP SYMPOSIA
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GEORGE R. BROWN CONVENTION CENTER

An Introduction to Babbitt Bearings as used in Industrial Turbomachinery

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Barry Blair – Waukesha Bearings

Scan DeCamillo – Kingsbury Bearings



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TURBOMACHINERY LABORATORY
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John K. Whalen. P.E. (John.K.Whalen@gmail.com) is currently a consultant residing in Houston, Texas.

John spent seven years (1981-1987) at Dresser-Rand Steam Turbines as a Product Engineer in the Large Turbine Engineering Department and then as an Analytical Engineer in the Rotordynamics Group of the Advanced Engineering and Development Department.



In 1988, John accepted a position with Centritech Corporation, as the Assistant Chief Engineer. In 1989, he was promoted to Manager of Engineering. In 1991, he left Centritech 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 was president and primary owner of TCE when it was acquired by John Crane in 2011, John retired from John Crane in 2015.

In August of 2018 John agreed to support Gulf Coast Bearing & Seal (GCBS) in a consulting role as their Chief Engineer.

John received his BSME (1981) from Rochester Institute of Technology. John is a registered Professional Engineer in the State of Texas and holds an Emeritus position on the Turbomachinery Symposium Advisory Committee.



Barry J. Blair (+1 262.506.3043 bblair@waukbearing.com) is the Chief Engineer at Waukesha Bearings Corporation, headquartered in Pewaukee, Wisconsin (USA).

Mr. Blair has overall responsibilities for research & development activities at Waukesha. Mr. Blair joined Waukesha Bearings in 1993 and has served in increasingly responsible engineering and technology roles. Mr. Blair received a Bachelor of Science (Mechanical Engineering, 1990) and Master of Science (Mechanical Engineering, 1990) from the University of Virginia, completing requirements of both degrees concurrently and a Master of Science (Product Design and Development, 2015) from Northwestern University. He has authored and coauthored several papers on the development of both hydrodynamic and active magnetic bearing technologies and has been granted patents on bearing technology.



Waukesha Bearings is a global leader in the design and manufacture of an extensive range of products: oil and process-lubricated engineered bearings; field-proven magnetic bearing systems ideal for remote commissioning, monitoring and diagnostics; Flexure Pivot® bearings, Integral Squeeze Film Damper (ISFD®) and Brush Seal technology. Designed for optimized performance in challenging environments, products are engineered for low power consumption, reduced operating temperatures, and increased reliability and efficiency. Ideal for challenging applications in oil and gas, power generation, marine and industrial markets, applications include gas turbines, centrifugal gas compressors, gearboxes, pumps and motors. Waukesha is part of Dover Corporation's Energy segment.



Scan DeCamillo (scan@kingsbury.com) is Manager of Research and Development for Kingsbury, Inc.

Scan is responsible for design, analysis, and development of Kingsbury fluid film bearings for worldwide industrial and military applications. He began work in this field in 1975 and has since provided engineering support to industry regarding application and performance of hydrodynamic bearings.

Mr. DeCamillo has developed performance and structural bearing analysis tools during his career, establishing design criteria used in many publications and specifications. He has patents and has authored several papers on bearing research, which is currently focused on advancing hydrodynamic bearing technology in high-speed turbomachinery.

Mr. DeCamillo received his B.S. degree (Mechanical Engineering, 1975) from Drexel University. He is a registered Professional Engineer in the State of Pennsylvania and a member of STLE, ASME, and the Vibration Institute.

Kingsbury, Inc. is known for its firsts - the first hydrodynamic thrust bearing installed in a hydraulic turbine, first horizontal pivoted-shoe journal bearing, first leading-edge directed lubrication bearing (LEG), and many others. Our company prides itself on providing tailored solutions for unique applications, with customer-focused service and a complete toolkit of capabilities that starts with engineering and R&D, moves into manufacturing and continues through comprehensive aftermarket support.



What we are/are not covering

- What we ARE covering
 - Common babbitted oil film bearings as typically found in critical rotating equipment in process and power plants.
- What we are **NOT** covering
 - Rolling element bearings
 - Materials other than Babbitt
 - Lubricants other than turbine oils
 - Magnetic or “other” bearings



Outline

- Introduction to Hydrodynamic lubrication
 - Break (10 am)
- Journal Bearings
 - Lunch (noon – 1:15)
- Thrust Bearings
 - Break (3 pm)
- Misc. Bearing topics
 - Close (5 pm)

