

**SHORT COURSE 1**  
**on**  
**TURBOMACHINERY ALIGNMENT OVERVIEW**

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**Tim Kincaid** is with Tern Technologies, Inc., in Anchorage, Alaska.

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**Marty Krueger** is with Tern Technologies, Inc., in Anchorage, Alaska.

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**SHORT COURSE 2**  
**on**  
**THE LUBRICATION OF POWER GENERATING TURBINES**

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**Betsy J. Butke** is with The Lubrizol Corporation, in Wickliffe, Ohio.

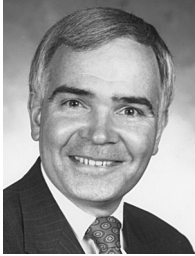
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**Frederick J. (Fred) Ondarza** is with The Lubrizol Corporation, in Wickliffe, Ohio.

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**SHORT COURSE 3**  
**on**  
**AUXILIARY LUBRICATION AND FLUID SEAL SYSTEMS—**  
**DESIGN, COMPONENT SELECTION, AND PREDICTIVE MAINTENANCE GUIDELINES**

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**William E. (Bill) Forsthoffer** spent six years at the Delaval Turbine Company, as Manager of Compressor Project Engineering, where he designed and tested centrifugal pumps and compressors, gears, steam turbines, and rotary (screw) pumps. Mr. Forsthoffer then joined the Mobil Research and Development Corporation. For five years, he directed the application, selection, design, testing, site precommissioning, and startup of the Yanbu Petrochemical complex in Yanbu, Saudi Arabia. Following that, he returned to MRDC and established a technical service program for Mobil affiliates to provide application, troubleshooting, and training services for rotating equipment. He left Mobil in 1990 to found his own company, Forsthoffer Associates, Inc., to provide training, critical equipment selection, and troubleshooting services to the refining, petrochemical, utility, and gas transmission industries.

Mr. Forsthoffer is a graduate of Bellarmine College with a B.A. degree (Mathematics) and from the University of Detroit with a B.S. degree (Mechanical Engineering).

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**SHORT COURSE 4**  
**on**  
**COMBINED CYCLE GAS TURBINES**

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**Meherwan P. Boyce** is Managing Partner of The Boyce Consultancy, in Houston, Texas. He has 35+ years of experience in the turbomachinery field, with 25 years in the design of compressors and turbines. His 15 years in academia include being Professor of Mechanical Engineering at Texas A&M University, and Founder of the Turbomachinery Laboratories and the Turbomachinery Symposium. Dr. Boyce has authored more than 100 technical publications and several books, including *Gas Turbine Engineering Handbook*, *Cogeneration & Combined Cycle Power Plants*, and *Centrifugal Compressors, A Basic Guide*. He has taught over 100 short courses globally attended by over 3000 students representing 400 companies, and is a Consultant to the aerospace, petrochemical, and utility industries.

Dr. Boyce received a B.S. and M.S. degree (Mechanical Engineering) from the South Dakota School of Mines and Technology and the State University of New York, respectively, and a Ph.D. degree (1969) from the University of Oklahoma.

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**SHORT COURSE 5**  
**on**  
**REVIEW OF API RP 684—**  
**THE API STANDARD PARAGRAPHS COVERING ROTORDYNAMICS AND BALANCING**

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**Ronald F. Bosmans** is Corporate Manager, Machinery Diagnostic Services for the Bently Nevada Corporation, in Minden, Nevada. In this capacity, he is responsible for the development of the Bently Nevada Engineer Assist Expert System. Prior to this, Mr. Bosmans served as Manager of the Machinery Diagnostic Services group from 1976-1989. From 1962-1972, he designed and tested centrifugal and axial compressors for the Allis-Chalmers Corporation in the Compressor Engineering Department. From 1960-1962, he was with Waukesha Motors Company in the Experimental Engineering Department, where he participated in the design and testing of internal combustion engines.

Mr. Bosmans has been the author of six ASME papers on rotating machinery, vibration analysis, and expert systems. He received his B.S. degree (Mechanical Engineering) from Marquette University and is a member of ASME.

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**Royce N. Brown** is Consultant and owner of RNB Engineering, in Houston, Texas. He retired from Dow Chemical in 1995 after 28+ years. His responsibilities there included specifications, instrumentation, controls, and consulting and field assistance for large rotating equipment. He has written 30+ technical papers, including a contribution to the ASM Handbook, *Friction, Lubrication, and Wear Technology*, and a book, *Compressors, Selection and Sizing*. Mr. Brown is a fellow member of ISA and ASME, a member of SME, AIChE, the Vibration Institute, and an associate member of SAE. He is a member of the API Subcommittee on Mechanical Equipment, and Task Force Chairman of API 617 and API 684.

Mr. Brown is a registered Professional Engineer in the States of Texas, Michigan, Louisiana, Wisconsin, and California. He has a B.S. degree (Mechanical Engineering) from the University of Texas, and an M.S. degree (Mechanical Engineering) from the University of Wisconsin.

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**C. Hunter Cloud** is Lab Engineer at the University of Virginia's ROMAC Laboratories, in Charlottesville, Virginia. He joined Mobil Research and Development Corporation, in Princeton, New Jersey, after graduating college. Mr. Cloud was a turbomachinery specialist responsible for machinery application engineering, commissioning, startup, and troubleshooting for Mobil's worldwide production, refining, and chemical facilities. During his 11 years at Mobil, he worked on numerous projects including several offshore gas injection platforms in Nigeria as well as serving as reliability manager at a large US refinery.

Mr. Cloud received a BSME from the University of Virginia. He is currently pursuing his doctorate where his research focuses on the measurement of turbomachinery stability characteristics. He is a member of ASME, the Vibration Institute, the API 684 rotordynamics Task Force, and he operates his own company, BRG Machinery Consulting.

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**Caleb F. Davis** is a Mechanical Engineer in the Machinery Group of Kellogg Brown and Root (KBR), in Houston, Texas. He provides engineering support for projects involving rotating machinery and packaged equipment. Primary work includes specification, bid evaluation, supplier coordination, review of supplier data, and witnessing tests of turbomachinery. His responsibilities also include consulting on startup and operating equipment problems.

Mr. Davis received his B.S. degree (Chemical Engineering, 1961) from Cornell University. He is a registered Professional Engineer in the States of Texas and California and a member of AIChE.

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**Pranabesh DeChoudhury** has worked for Elliott Company, in Jeannette, Pennsylvania, for 32+ years. As a Senior Consulting Engineer, his responsibilities included rotorbearing dynamics, bearing design and analysis, torsional dynamics, blade vibration analysis, and troubleshooting field vibration problems. He has recently retired from Elliott Company and has started his own consulting company, Pran RDA Consulting Inc.

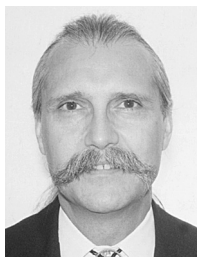
Dr. DeChoudhury obtained a BSME degree (1963) from Jadavpur University, an MSME degree from Bucknell University, and a Ph.D. degree (Mechanical Engineering, 1971) from the University of Virginia. He has authored and coauthored 24 technical papers and has been awarded a patent, and three more U.S. provisional patent applications have been made. He is a registered Professional Engineer in the State of Pennsylvania and is a member of ASME and STLE.

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**Michael J. Drosjack** is a member of Rotating Equipment Engineering Department at Shell Global Solutions (US) Inc., in Houston, Texas. He is responsible for providing technical support for rotating and reciprocating machinery to Shell and Shell affiliated companies, worldwide, as well as commercial customers. Since joining Shell in 1975, he has had assignments on projects involving specification, evaluation, installation, and startup of machinery along with extensive field troubleshooting, particularly in the area of vibration measurement, vibration analysis, and rotordynamics.

Dr. Drosjack received his B.S. degree (Mechanical Engineering, 1970) from Carnegie-Mellon University, and his M.S. (1971) and Ph.D. (1974) degrees (Mechanical Engineering) from The Ohio State University. He is a member of ASME, the Vibration Institute, the Machinery Subcommittee of the Ethylene Products Committee, participates in API task forces, and has been a speaker and panelist for NPRA. He has been a Turbomachinery Symposium Advisory Committee member since 1986.



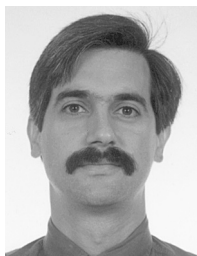
**Timothy J. (Tim) Hattenbach** is a Principal Mechanical Engineer and Compressor Group Leader with Bechtel Corporation in their Houston, Texas office. He has worked for Bechtel for 25 years and has a total of 30 years of experience in the petrochemical industry. His responsibilities include specification, evaluation, witness testing, and field assistance of turbomachinery for petrochemical and pipeline projects.

Mr. Hattenbach has B.S. and M.S. degrees (Mechanical Engineering) from the University of Houston. He is a member of Omicron Delta Kappa, and is the Bechtel representative to the API Subcommittee on Mechanical Equipment. He is the chairman of the API 670 Task Force on Machinery Protection Systems and a Task Force member on the API 684 Rotordynamic Tutorial and API 616 Gas Turbines Standards. Mr. Hattenbach is a registered Professional Engineer in the State of Texas.



**James H. Hudson** is Consultant for GE Energy/Oil & Gas, in Oshkosh, Wisconsin. He began his career with Allis Chalmers Corporation in 1965 and served in many capacities. In 1985, A-C Compressor Corporation purchased the Compressor Division from Allis Chalmers, and he became Manager of Engineering. He assumed his current position in 1987.

Mr. Hudson graduated with a BSME from Newark College of Engineering (1965). He has been a Task Force member on the Fourth through Seventh Editions of API 617 for centrifugal compressors, API 684 rotordynamics First Edition, and API 671 for couplings. He presently is a member of API 684 Second Edition Task Force. He was a member of the Texas A&M Advisory Committee during five symposia and has published papers on torsional vibration and lateral vibration. Mr. Hudson is a registered Professional Engineer in the State of Wisconsin and holds four United States patents.



**John A. Kocur, Jr.** is a Machinery Engineer in the Plant Engineering Division at ExxonMobil Research & Engineering, in Fairfax, Virginia. He has worked in the turbomachinery field for 20 years. He provides support to the downstream business within ExxonMobil with expertise on vibrations, rotor/aerodynamics and health monitoring of rotating equipment. Prior to joining EMRE, he held the position of Manager of Product Engineering and Testing at Siemens Demag Delaval Turbomachinery. There Dr. Kocur directed the development, research, engineering, and testing of the compressor and steam turbine product lines. He has also held positions with Pratt & Whitney and Amoco Corporation.

Dr. Kocur received his BSME (1978), MSME (1982), and Ph.D. (1991) from the University of Virginia and an MBA (1981) from Tulane University. He has authored papers on rotor instability and bearing dynamics, lectured on hydrostatic bearings, has been a committee chairman for NASA Lewis, and is a member of ASME.



**Edmund A. Memmott** is a Principal Rotordynamics Engineer at Dresser-Rand, in Olean, New York, where he has been employed since 1973. He has been involved with the rotordynamic analysis and design of a wide range of centrifugal compressor and gas turbine applications. Dr. Memmott has published 12 papers on rotordynamics, most of which deal with high-pressure centrifugal compressors. In addition to membership in ASME and the Vibration Institute, he is on the API 684 Task Force that wrote the Second Edition of the "Tutorial on the API Standard Paragraphs Covering Rotordynamics and Balancing."

Dr. Memmott holds an A.B. degree from Hamilton College, Phi Beta Kappa, an A.M. degree from Brown University, and a Ph.D. degree from Syracuse University. He was an Instructor in Mathematics at Hamilton College and the State University of New York at Albany.



**John C. Nicholas** is part owner, Director, and Chief Engineer of Rotating Machinery Technology, Incorporated, a company that repairs and services turbomachinery, and manufactures bearings and seals. He has worked in the turbomachinery industry for 26 years in the rotor and bearing dynamics areas, including five years at Ingersoll-Rand and five years as the Supervisor of the Rotordynamics Group at the Steam Turbine Division of Dresser-Rand.

Dr. Nicholas, a member of ASME, STLE, and the Vibration Institute, has authored over 35 technical papers, concentrating his efforts on tilting pad journal bearing design and application. He received his B.S. degree from the University of Pittsburgh (Mechanical Engineering, 1968) and his Ph.D. degree from the University of Virginia (1977) in rotor and bearing dynamics. Dr. Nicholas holds several patents including one for a spray-bar blocker design for tilting pad journal bearings and another concerning bypass cooling technology for journal and thrust bearings.



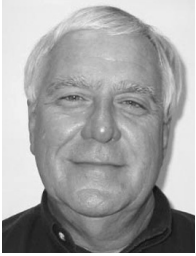
**Anthony D. (Tony) Teutsch** is a Machinery Systems Staff Consultant with ChevronTexaco's Energy Technology Company, in Houston, Texas. He is involved in the selection, specification, design review, and testing of special purpose rotating machinery for major capital project work. Mr. Teutsch began his career with Ingersoll Rand Company's Turbo Products Division, in Phillipsburg, New Jersey, as a Marketing Application Engineer. He moved to Houston in 1976 to work in sales before joining Fluor Daniel in 1989 as a Design Engineer, and then, in 1990, with Texaco's Central Engineering Department as a Rotating Machinery Specialist.

Mr. Teutsch has a B.S. degree (Mechanical Engineering, 1972) from Purdue University and an M.S. degree (Management, 1973).

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**SHORT COURSE 6**  
**on**  
**RECIPROCATING COMPRESSOR**  
**PERFORMANCE MEASUREMENT AND CONDITION ANALYSIS**

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**Warren Laible** has been managing the training, contract analysis services, product testing, and equipment demonstration activities at Windrock, Inc., in Knoxville, Tennessee, for the past two and one half years. He has more than 26 years of compressor experience with more than 4000 mechanical condition, performance, vibration, and pulsation tests.

Mr. Laible graduated in 1970 with a B.S. degree (Industrial Technology). After time in the Army and with United Parcel Service, he was hired as an employee of a major gas company in South Louisiana. It was there that he started his industrial engine and compressor training and began his career as an Equipment Analyst. Beginning in 1977, 20 years of providing contract analysis services followed. In 1997, Mr. Laible accepted a position as Product Support Manager for a compressor manufacturer, packager, and leaser. Valuable experience was gained in high speed compressor package design, spectral vibration troubleshooting, and performance measurement.

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