

**SHORT COURSE 1**  
**on**  
**CENTRIFUGAL COMPRESSORS 101**

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**Jay M. Koch** is Manager Configure to Order Engineering, Centrifugal Compressors, at Dresser-Rand, in Olean, New York. He has been employed there since 1991, working primarily in the Aerodynamics Group, before being promoted to Manager of Aero/Thermo Design Engineering in 2005. During his time in the Aerodynamics Group, his responsibilities included the development, design, and analysis of aerodynamic components of centrifugal compressors. Additionally, he was responsible for the development of software used to select and predict centrifugal compressor performance. Prior to joining Dresser-Rand, Mr. Koch was employed by Allied Signal Aerospace.

Mr. Koch holds a B.S. degree (Aerospace Engineering) from Iowa State University. He has authored or coauthored many technical papers.

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**Mark J. Kuzdzal** is the Manager of Core Technologies at Dresser-Rand Company, Olean Operations, in Olean, New York. He is responsible for overseeing rotordynamics, aerodynamics, materials, welding, solid mechanics, and acoustics disciplines. He has been with the company since 1988. Mr. Kuzdzal's areas of expertise are rotordynamics, bearing performance, field vibration issue resolution, and product/process development. He has coauthored many technical papers and holds two U.S. Patents.

Mr. Kuzdzal has a B.S. degree (Mechanical Engineering, 1988) from the State University of New York at Buffalo.

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**SHORT COURSE 2**  
**on**  
**INTRODUCTION TO STEAM TURBINES**

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**Darryl Turner** is Aftermarket R&D coordinator at Elliott Company Technical Services, in Jeannette, Pennsylvania. He began his career with Elliott after college graduation in 1975, and joined Champlin Refining (now Citgo) in 1987 as Rotating Equipment Engineer. In 1991, he was instrumental in formation of an international power recovery expander users group. Mr. Turner joined Saudi Aramco's Consulting Services Department in Dhahran, Saudi Arabia, in 1992, becoming Rotating Equipment Specialist providing technical support to Saudi Aramco operating facilities and new projects. He served as program chairman for the Saudi Arabian Eastern Province chapter of ASME. Mr. Turner joined Dresser-Rand in 1998, working in the axial compressor and power recovery expander group. He returned to Elliott in 2000.

Mr. Turner received a BSME from Carnegie Mellon University in 1975. He is a member of ASME, and he coauthored a paper on using at-speed balancing machines to assess rotor and bearing system stability.

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**Keith Zanavich** is the Technical Services Group Leader for steam turbines, with The Elliott Group, in Jeannette, Pennsylvania. After college graduation, he joined Newport News Shipbuilding, in Newport News, Virginia, as a Mechanical Engineer working primarily in submarine propulsion and auxiliary systems. Mr. Zanavich was involved with such projects as the SSBN 637/640 Class Submarine Overhaul & Repair, and SSN 688 Class Submarine Design Engineering, Planning Yard/Fleet Support, and Maintenance programs. He also assisted in the implementation of the shipyard's Crane Engineering, Maintenance, and Reliability program. He joined Elliott Company in 1998 as a Field Service Engineer working in Technical Services, providing technical support for Elliott's many customers and operating steam turbines.

Mr. Zanavich received a BSMET from the University of Pittsburgh at Johnstown, in 1983.

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**SHORT COURSE 3**  
**on**  
**CENTRIFUGAL COMPRESSORS 201**

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**Gary M. Colby** presently is a Test Engineering Supervisor with Dresser-Rand Company, in Olean, New York. He is responsible for developing test methods to meet objectives for production compressors and analytical aerodynamic testing of centrifugal compressors. Mr. Colby has held several engineering positions over his 34 year career at Dresser-Rand Company. The majority of his work experience has been in the thermodynamic performance field of centrifugal compressors. He has more than 14 years of experience in testing of centrifugal compressors both in the shop and the field.

Mr. Colby studied Mechanical Technology for two years at the State University of New York at Alfred. He has authored several papers on hydrocarbon testing of compressors.

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**Jim Hardin** is a Senior Engineer in the Advanced Technology department at The Elliott Group, in Jeannette, Pennsylvania, where he performs computational fluid dynamics (CFD) and other aerodynamic analyses for turbines and compressors. Previous experience includes CFD and other analyses on shipboard propulsion and piping systems with Westinghouse Electric Corporation, and turbine design support and testing at The Elliott Group. He has 22 years of engineering experience, mostly in aerodynamics and fluid systems.

Mr. Hardin received a B.S. degree (Mechanical Engineering, 1981) from Carnegie-Mellon University, and is a registered Professional Engineer in the State of Pennsylvania.

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**William C. Hohlweg** is a Senior Engineer in the Advanced Technology Department at Elliott Company, in Jeannette, Pennsylvania. He is the Supervisor of the Aerodynamics Group and is responsible for design and development of centrifugal compressor and axial turbine staging. This includes single-stage testing, ongoing improvement of the application computer programs for the multistage product lines, and aero performance consultation. He has been with Elliott for 26 years, and has specialized in centrifugal compressor performance both in the Development and Product Engineering departments. Prior to that, he was employed at Ford Motor Company and NASA Langley Research Center.

Mr. Hohlweg received his B.S. degree (Aerospace Engineering, 1971) from the Pennsylvania State University and an M.S. degree (Flight Sciences, 1975) from George Washington University. He has authored or coauthored eight technical publications for ASME, NASA, and I Mech E.

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**Jeffrey Moore** is a Program Manager at Southwest Research Institute, in San Antonio, Texas. His professional experience over the last 20 years includes engineering and management responsibilities related to centrifugal compressors and gas turbines at Solar Turbines Inc. in San Diego, California, Dresser-Rand in Olean, New York, and Southwest Research Institute in San Antonio, Texas. Dr. Moore's interests include advanced compression methods, rotordynamics, seals and bearings, computational fluid dynamics, finite element analysis, controls, and aerodynamics. He has authored more than 20 technical papers related to turbomachinery and has given numerous tutorials and lectures. He is currently the chair of the Oil and Gas Committee for IGTI Turbo Expo and a member of the Turbomachinery Advisory Committee.

Dr. Moore holds B.S., M.S., and Ph.D. degrees (Mechanical Engineering) from Texas A&M University.

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**Robert C. White** is a Principal Engineer for Solar Turbines Inc., in San Diego, California. He is responsible for compressor and gas turbine performance predictions and application studies. In his former position he lead the development of advanced surge avoidance and compressor controls at Solar Turbines. Mr. White holds 12 U.S. Patents for turbomachinery related developments. He has contributed to several papers, tutorials, and publications in the field of Turbomachinery.

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**SHORT COURSE 4**  
**on**  
**COMBINED CYCLE AND COGENERATION POWER**

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**Meherwan P. Boyce** is Chairman of The Boyce Consultancy Group, LLC, in Houston, Texas. He has 45+ years of experience in the turbomachinery field, with 35 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 130 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 150 short courses globally attended by over 4500 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**  
**AN INTRODUCTION TO BABBITTED BEARINGS**  
**AS USED IN INDUSTRIAL TURBOMACHINERY**

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**Barry J. Blair** is the Chief Engineer at Waukesha Bearings Corp. (WBC), in Pewaukee, Wisconsin. At WBC, his responsibilities include bearing design, product development, developing design codes and tools, and providing training. Prior to joining WBC in 1993, he worked for another bearing manufacturer.

Mr. Blair received both his B.S. and M.S. degrees (Mechanical Engineering, 1990) from the University of Virginia. He completed requirements of both degrees concurrently. He has authored and coauthored several papers on bearings.

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**Scan M. DeCamillo** is Manager of Research and Development for Kingsbury, Inc., in Philadelphia, Pennsylvania. He 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.

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**John K. Whalen** is Engineering Manager and President of TCE/Turbo Components and Engineering, Inc., in Houston, Texas. He 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 Centritech, as the Assistant Chief Engineer, and in 1989, he was promoted to Manager of Engineering. In 1991, he left Centritech to help start TCE. At TCE, he is responsible for the engineering department and engineering for the product lines, which include babbitted journal and thrust bearings, labyrinth seals, and related engineering services.

Mr. Whalen received his B.S. degree (Mechanical Engineering, 1981) from the 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.

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**SHORT COURSE 6**  
**on**  
**LARGE ENGINEERED MOTORS, GENERATORS, AND VARIABLE**  
**FREQUENCY DRIVE SYSTEM FUNDAMENTALS FOR MECHANICAL ENGINEERS**

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**Arthur J. Smith III** is Senior Vice President and Manager of the New Orleans Office Electrical Engineering Department of the consulting engineering firm of Waldemar S. Nelson and Co., Inc., in New Orleans, Louisiana. He has authored and coauthored papers on: arc-flash hazards; molded case and insulated case circuit breaker ratings and withstandability; combination motor starters; medium voltage Korndorffer type starters; and IEEE P-1458 recommended practice for the selection, field testing, and life expectancy of molded case circuit breakers for industrial applications.

Mr. Smith received his BSEE (1978) from Tulane University, and began his career with Waldemar S. Nelson in 1975, while attending Tulane. He is a registered Professional Engineer in the States of Alabama, Alaska, California, Louisiana, Mississippi, and Texas. He is also a member of IEEE, IEEE-IAS, NFPA 70 National Electrical Code, CMP-11, and he is Secretary of IEEE Standards Correlating Committee SCC-18.

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**SHORT COURSE 7**  
**on**  
**ROOT CAUSE FAILURE ANALYSIS IN INDUSTRIAL TURBOMACHINERY**

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**David L. Ransom** is a Principal Engineer at Southwest Research Institute, in San Antonio, Texas. His professional experience over the last 10 years includes engineering and management responsibilities at Boeing, Turbocare, and Rocketdyne. Mr. Ransom's research interests include rotordynamics, structural dynamics, seals and bearings, finite element analysis, and root cause failure analysis. He has authored 12 technical papers in the field of rotordynamics, thermodynamics, and root cause failure analysis.

Mr. Ransom received his B.S. degree (Engineering Technology, 1995) and M.S. degree (Mechanical Engineering, 1997) from Texas A&M University. He is also a licensed Professional Engineer in the State of Texas.

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**David Seib** is a Principal Metallurgical Engineer for Dresser-Rand Company, in Olean, New York. He has been with them since 1989. Previously, Mr. Seib spent four years working at the Marine Corps Depot, Cherry Point, North Carolina, as a civilian Materials Engineer.

Mr. Seib has a B.S. degree (Materials Engineering, 1984) from North Carolina State University.

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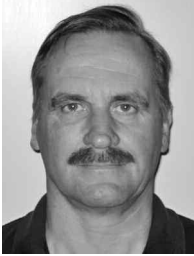
**Harold R. Simmons** leads diagnostics projects to resolve turbomachinery dynamics problems with Southwest Research Institute, in San Antonio, Texas. He joined SWRI in 1974 in the Mechanical and Fluids Engineering Division, where he leads projects to resolve turbomachinery dynamics problems for clients in power generation, oil and gas transmission, and petrochemical industries. Mr. Simmons is skilled in structural dynamics testing and thermal cycle analysis as applied to gas turbine problem evaluation. He has developed special diagnostic tools for evaluating the mechanical dynamics root causes of blade high cycle fatigue, hot section thermal failures, rotor vibration, and combustion stability. Mr. Simmons was previously employed by Pratt & Whitney Aircraft as a jet engine designer and as a structural dynamics analysis engineer.

Mr. Simmons has a B.S. degree (Mechanical Engineering) and 44 years of professional experience in turbomachinery problem diagnosis and gas turbine design.

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**SHORT COURSE 8**  
**on**  
**API 614 (ISO 10438) FIFTH EDITION**

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**Glenn Bredder** is the Vice President of International Sales for Howard Marten Company, in Palmyra, Virginia. For the past 20 years, he has held various engineering, management, and sales positions in lubrication system manufacturing. Mr. Bredder has a B.S. degree (Mechanical Engineering, 1976) from Stevens Institute of Technology. He is a registered Professional Engineer.



**Kevin Kisor** is an Applications and Sales Engineer in MAN Turbo's Houston office. He has held various sales and application engineering positions with Sundyne, A-C Compressor, Nuovo Pignone, and GHH Borsig, and has served on the API 614 Task Force. Mr. Kisor has a B.S. degree (Industrial Technology) from Ohio University.



**Richard A. (Rich) Lewis** is a Senior Mechanical Associate at Dow Chemical in Houston, Texas. He has over 40 years' experience in rotating equipment, and has spent the last 21 years with Dow Chemical in the rotating equipment area. Mr. Lewis is a turbomachinery subject matter expert and is Technical Resource Leader for general mechanical equipment at Dow. He works with compressors, turbines, pumps, agitators, gears, centrifuges, extruders, and other critical and noncritical rotating equipment.

Mr. Lewis received a BSME from Penn State University, and is a registered Professional Engineer in the State of Texas. He currently is on the API Mechanical Steering Team and API Subcommittee on Mechanical Equipment, and has served on API Task Forces 614, 619, and 617, where he has served as both a manufacturer's representative and as a user. He is currently Chairman of the API 614 and 617 Task Forces.

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**Charles A. (Chuck) Parker** is Vice President of G.J. Oliver, Inc., a steel fabricator and fluid systems manufacturer, located in Phillipsburgh, New Jersey. He has 33 years of experience in design of turbomachinery instrument, control, and supporting auxiliary fluid systems. Mr. Parker has worked previously for CONMEC Inc., (now G.E.), Bosch Rexroth Corp., and Ingersoll-Rand Co. (now Dresser-Rand). His accomplishments include invention patents, authoring of technical papers, presentations, and seminar instruction associated with turbomachinery auxiliary systems.

Mr. Parker holds a BSEE from Lafayette College. He has been serving as a Task Force member of API 614/ISO 10438 since 1992 and also currently serves on the API 692 for Dry Gas Seals and Systems, which is under development.

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