

SHORT COURSE 1
on
MACHINERY FAILURE ANALYSIS



Luiz Otávio A. Affonso is with PETROBRAS-Refinaria de Cubatão, in Cubatão, Brazil. He has been with them since graduation from college, working on machinery reliability improvements and maintenance cost reduction. Mr. Otávio has been responsible for machinery failure analysis and troubleshooting, machinery field testing, etc. He has published several papers about machinery reliability improvements, machinery testing, and reducing energy consumption, and has authored a book on machinery failure analysis.

Mr. Otávio graduated (Mechanical Engineer, 1985) from UFRJ, Rio de Janeiro.

SHORT COURSE 2
on
TURBOMACHINERY DIAGNOSTICS AND CONDITION ASSESSMENT



Steven M. Schultheis is a Consulting Engineer in the Specialty Engineering group of Lyondell Chemical Company, in Channelview, Texas. His specialty is the analysis of machinery dynamics problems, especially in the areas of vibration and pulsation. He is also a specialist in data acquisition and condition monitoring. In his current position, he is responsible for troubleshooting machinery problems, providing corporate direction for condition monitoring, plant startup assistance, shop acceptance testing, and project engineering support. His current major assignment is technical support for the engineering and construction of two grass roots chemical plants in the Netherlands.

Mr. Schultheis has a B.S. degree (Mechanical Engineering) from New Mexico State University. He is a registered Professional Engineer in the State of Texas, and is a certified Vibration Specialist Level III. He is a member of ASME and the Vibration Institute.

SHORT COURSE 3
on
GAS TURBINE TECHNOLOGY



Meherwan P. Boyce is Managing Partner of The Boyce Consultancy, in Houston, Texas. He has 40 years of experience in the turbomachinery field. His industrial experience covers 25 years from design of compressors and turbines to Chairman and CEO of Boyce Engineering International. 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*. He has taught over 100 short courses globally attended by over 3000 students representing over 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.

SHORT COURSE 4

on

COMPRESSOR DRY GAS SEALS

Editor's Note: This Short Course was canceled when David O'Brien notified us of Joseph Sedy's passing in June of 2002. Working with Mr. Sedy was always a pleasure. He is greatly missed.



Josef (Joe) Sedy is a Consultant with Envitech, Inc., in Mount Prospect, Illinois. He has spent over 30 years improving mechanical and gas seals. Early years were spent as a Research Engineer at Crane Packing Company (John Crane Inc.). His work with spiral groove gas seals resulted in a patented gas seal design that revolutionized sealing of centrifugal compressors. Then as Technical Director, Mr. Sedy helped promote acceptance of this product through conversions of problem compressors in gas transmission, chemical, and petrochemical plants. Since becoming an independent consultant in the early 90s, he worked with Durametallic, now Flowserve Corporation, to further improve the dry gas seal, concentrating on field problems. He has authored several technical papers and was granted 14 US patents and their foreign equivalents.

Mr. Sedy received his M.S. degree (Mechanical Engineering) from Charles University, in Prague, and is a registered Professional Engineer in the State of Illinois.

David P. O'Brien is a Principal Reliability Engineer with Equistar Chemicals, LP, in Clinton, Iowa. He has more than 10 years' rotating equipment experience in machinery engineering, mechanical maintenance, vibration analysis, troubleshooting, and reliability improvements. This has included primary responsibility for turbomachinery overhauls, repairs, and upgrades—specifically to process (dry gas) seals, labyrinth (abradable) seals, bearings, couplings, and other components. Along with his experience at Equistar, Mr. O'Brien was a Senior Engineer for Custom Bearing Corporation, in Wellsville, New York, working with abradable seals, fluid film bearings, and other rotating equipment components.

Mr. O'Brien received his M.S. degree (Mechanical Engineering) from Iowa State University, and is a registered Professional Engineer in the State of Iowa. He chairs the Equistar Rotating Equipment Best Practice Team and is a member of the Vibration Institute.

SHORT COURSE 5
on
**API STANDARD 617—AXIAL AND CENTRIFUGAL
COMPRESSORS AND TURBOEXPANDERS FOR PETROLEUM,
CHEMICAL, AND GAS INDUSTRY SERVICES, SEVENTH EDITION**



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*.

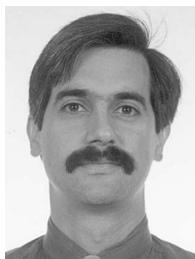
Mr. Brown is a fellow member of ISA and ASME, a member of SME, AIChE, the Vibration Institute, and an associate member of SAE. He is a member of the API Subcommittee on Mechanical Equipment, and Chairman of the API 617 Task Force on Centrifugal Compressors.

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.



Peter J. (Pete) Beaty is a Senior Consultant specializing in turbomachinery at DuPont's Engineering Technology Center, in Wilmington, Delaware. He is responsible for assuring the correct application of compression equipment and systems. He has been involved in numerous rotating machinery installation, startup, and troubleshooting assignments during his 36 years with DuPont.

Mr. Beaty received a B.S. degree (Mechanical Engineering) from Villanova University. He is a Registered Professional Engineer in the State of Delaware, and a member of Pi Tau Sigma, Tau Beta Pi, and ASME. He participates in the development of Process Industry Practices (PIP), API mechanical standards, and represents DuPont on APIs Committee for Refinery Equipment. He is Convenor and Project Leader for ISO Standard 10438 (API 614), and Vice Chairman of API Standard 617.



John A. Kocur is Chief Engineer of Mechanical Analysis at Demag Delaval Turbomachinery, in Trenton, New Jersey. He has worked in the turbomachinery industry for 11 years. In his current capacity, he directs the rotordynamic and stress analysis of the compressor and steam turbine product lines. Prior to joining Demag Delaval, he held the position of Group Leader of Rotordynamics at Pratt & Whitney's Government Engines and Space Propulsion Division. There Dr. Kocur conducted and directed analysis of aircraft engine and rocket turbopump designs. He started his career at the Amoco Corporation Research Center in the position of Research Engineer.

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 coauthored papers, lectured on hydrostatic bearings, has sat as Committee Chairman for the Fluid Film Bearing Workshop at NASA Lewis, and is a member of ASME.



Richard A. (Rich) Lewis is a Mechanical Associate at Dow Chemical in Houston, Texas. He has over 30 years' experience in rotating equipment, and has spent the last 13 years with Dow Chemical in the rotating equipment area. He works with compressors, turbines, pumps, agitators, gears, centrifuges, extruders, and other critical and noncritical rotating equipment. Before joining Dow Chemical, he was Test Engineer, Senior Compressor Application Engineer, and Manager of Zone Engineering with Elliott Company.

Mr. Lewis received a BSME from Penn State University, and is a registered Professional Engineer in the State of Texas. He is a member of the ASME B73 committee, PIP Machinery Function Team, API Mechanical Steering Team, API Subcommittee on Mechanical Equipment, and has served on API Task Forces 619, 674, and 617, where he has served as both a manufacturer's representative and as a user. He is currently Chairman of the API 614 Task Force.
