

**SHORT COURSE 1**  
**on**  
**BASIC PUMP HYDRAULICS WITH A MINIMUM OF MATHEMATICS**

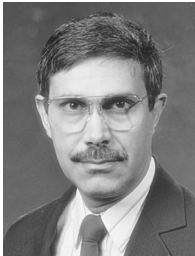
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**Robert J. (Bob) Hart** is an independent consultant and is the Senior Member of the consulting firm, Robert J. Hart Enterprises, LLC. He was previously employed by the Dupont Company (27 years) and retired as a Principal Consultant in the Rotating Machinery Group in the Engineering Department. His primary responsibilities were to define Corporate pumping system philosophy and procedures, provide technical guidance on special pumping applications, chaired the Pump Standards effort, chaired the Dupont Corporate Pump Committee, and provided technical leadership in the major Dupont Pump Supplier Alliance.

Mr. Hart is Chairman of the ANSI B73 Pump Committee and a former member of the Texas A&M Turbomachinery Laboratory's International Pump Users Symposium Advisory Committee. He was previously employed for 13 years in the Engineering Department of Cooper Bessemer and served four years in the U.S. Navy aboard various ships.

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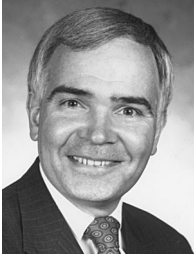
**John P. Joseph II** is an independent consultant with Rotating Equipment Systems Technical Associates, in Houston, Texas. He was previously with BP Amoco where he provided technical and maintenance support for rotating equipment systems to existing asset organizations in BP Amoco, and to Project Management on new projects. Prior to that, Mr. Joseph was with the Amoco Petroleum Products Refinery, in Texas City, Texas. He supervised the rotating equipment engineers and the rotating equipment specialists for the refinery. Mr. Joseph spent six and one half years as Superintendent of Central Shops and three years in Amoco's Refining and Transportation Engineering Department, in Chicago, Illinois. Previous assignments at the Amoco Texas City refinery also included the Rotating Equipment Consulting Group, the Project Engineering Group, and as a Maintenance Engineer on the Hydrocracking Unit.

Mr. Joseph received his B.S. degree (Mechanical Engineering, 1972) from the University of Texas at El Paso.

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**SHORT COURSE 2**  
**on**  
**PUMP UNIT RELIABILITY OPTIMIZATION**

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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 3**  
on  
**SHAFT SEAL DESIGN AND APPLICATION (BASIC)**

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**Alan O. Lebeck** started Mechanical Seal Technology, Inc. (MSTI) in 1987, in Albuquerque, New Mexico. MSTI performs research and product development, designs software, and consults, all in relation to mechanical seals.

Dr. Lebeck served on the faculty of the University of Illinois, then worked for Shell Development. From 1971 to 1987, he served as Professor and Director of the Mechanical Engineering Department at the University of New Mexico, and as Director of the Bureau of Engineering Research. During this time, he started a mechanical seal research program under the sponsorship of the National Science Foundation and the U.S. Navy. This work served as the basis for numerous papers, reports, and inventions. A seal test program was started in 1978 and has continued. His book, *Principles and Design of Mechanical Face Seals*, was published by John Wiley (1991).

Dr. Lebeck received his B.S. (1964), M.S. (1965), and Ph.D. (1968) degrees (Mechanical Engineering) from the University of Illinois.

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**Henri V. Azibert** is the Chief Engineer of the Fluid Sealing Division of the A.W. Chesterton Company, in Groveland, Massachusetts. After a varied career, he joined the A.W. Chesterton Company in 1980 as a Design Engineer in the Mechanical Seal Division. Mr. Azibert has 20 patents granted on mechanical seal designs and improvements. He has lectured extensively to maintenance engineers all over the world.

Mr. Azibert received his Baccalaureate in Mathematics from Lycée Louis Le Grand in Paris. After emigrating to the United States, he received, a B.A. in Political Science from the University of Massachusetts, a Jurisprudence Doctor degree from Boston College, and a Masters degree (Mechanical Engineering) from Northeastern University. Mr. Azibert maintains his standing in the Massachusetts Bar, and is a member of STLE, the API 682 Task Force, and Chairman of the Standardization Task Group for the Fluid Sealing Association.

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**Joseph (Joe) Boylan** is Vice President - Business Development at Morgan AM & T, in St. Marys, Pennsylvania. He has held several positions in his 17 years in the mechanical carbon industry, including Test Engineer, Manager of Manufacturing Engineering, Product Engineer, and Director of Application Engineering. Mr. Boylan has been responsible for the design, development, and marketing of the various carbon-graphite and silicon carbide materials. With the addition of the product testing responsibilities, he has an extensive background in the field of self-lubricating materials.

Mr. Boylan received his B.S. degree (Electrical Engineering, 1984) from the Pennsylvania State University. He is a member of SAE, SME, and STLE.

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**James R. (Jim) Wasser** is the Product Engineering Manager with John Crane Mechanical Seals, located in Morton Grove, Illinois. Before John Crane, he worked at Magenta Corporation, a custom molder of thermoplastics, as a Design Engineer. He is currently responsible for new product development in North America and has been with John Crane since 1986. Mr. Wasser holds six patents in the field of dry running seal technology and has written papers for the International Pump Users Symposium, STLE, and AICHEM.

Mr. Wasser received his B.S. degree (Mechanical Engineering, 1985) from Illinois State University.

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**SHORT COURSE 4**  
on  
**CENTRIFUGAL PUMP AND SYSTEM INTERACTION**

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**Michael Volk** is President of Volk & Associates, Inc., a consulting firm specializing in pumps and pump systems, in Oakland, California. Holding B.S. and M.S. degrees in Mechanical Engineering, Mr. Volk is a registered Professional Engineer in the State of California with over 25 years of practical pump experience. He is the author of *Pump Characteristics and Applications*, published by Marcel Dekker, New York, New York, now in its sixth printing. Prior to forming his own consulting firm in 1982, Mr. Volk had experience in pump system design with Bechtel Corporation, held various engineering and marketing positions with Goulds Pumps, and started up and managed a Goulds pump repair center in Houston, Texas. His consulting activities with Volk & Associates have included teaching hundreds of pump courses in the U.S. and a dozen other countries; assisting users and consultants with pump system design and specification development; and evaluating, troubleshooting, and testing installed pumps.

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**SHORT COURSE 5**  
on  
**LIFE-CYCLE COST FOR PUMPING SYSTEMS**

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**Gunnar Hovstadius** is Director of Technology with ITT Fluid Technology Corporation, in Upper Saddle River, New Jersey. He joined ITT Flygt in Solna, Sweden, in 1981, where he headed R&D for their extensive pump program, including its hydrogenerator program. In 1985, he moved to ITT Flygt (USA), assuming the position of Technical Manager for ongoing development activities. In 1996, Dr. Hovstadius was appointed to his current position. Prior to joining ITT Flygt, he worked at the Aeronautical Research Institute of Sweden as a Research Engineer and at Alfa Laval (Sweden) as head of the Fluid Dynamic Research Group.

Dr. Hovstadius became involved in the US Department of Energy's Motor Challenge Program early in 1995. He has presented many seminars for the DOE.

Dr. Hovstadius received B.S. and M.S. degrees from the University of Upsala and a Doctor of Science degree (Fluid Dynamics) from the Royal Institute of Technology in Stockholm.

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## SHORT COURSE 6

on

### POSITIVE DISPLACEMENT PUMPS

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**Lev Nelik** is President of Liquiflo Equipment Company, in Garwood, New Jersey. He has over 20 years of engineering, manufacturing, sales, field, and management experience in the pump industry. Previously, he worked at Roper Pump, IDP (Ingersoll-Rand), and ITT (Goulds Pumps).

Dr. Nelik is a registered Professional Engineer and has published over 50 documents, including a “Pumps” section for the *Encyclopedia of Chemical Technology*, a section for the *Handbook of Fluids Dynamics*, and a book *Centrifugal and Rotary Pumps: Fundamentals with Applications*.

Dr. Nelik is a member of the International Pump Users Symposium Advisory Committee, an Advisory Board Member of *Pumps & Systems* and *Pumping Technology* magazines, and a former Associate Technical Editor of the *Journal of Fluids Engineering*. He is a full member of ASME, and a Certified APICS (CIRM). He is a graduate of Lehigh University with an M.S. degree (Manufacturing Systems) and a Ph.D. degree (Mechanical Engineering).

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**John Petersen** is Vice President, Technical Customer Service, for Viking Pump, Inc., in Cedar Falls, Iowa. His responsibilities include application, troubleshooting, and technical support for gear, lobe, and gerotor type rotary pumps. Previous responsibilities at Viking include Project Engineer, Chief Design Engineer, Chief Engineer-Research and Development, and Vice President, Engineering.

Mr. Petersen received his B.S. degree from Iowa State University (1970) and is a registered Professional Engineer in the State of Iowa. He is a member of the Hydraulic Institute and serves on the Rotary Pump Committee.

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**James R. (Jim) Brennan** is Market Services Manager for Imo Pump, in Monroe, North Carolina. His responsibilities include worldwide marketing and technical support for pumping applications. He has more than 30 years of service with Imo Industries. Engineering manager for five years, Mr. Brennan has spoken at a number of conferences worldwide and has published more than three dozen technical articles and papers.

Mr. Brennan is a 1973 graduate of Drexel University in Philadelphia and a member of the Society of Petroleum Engineers.

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**Robert (Bob) Limper** is Director of Sales for Bran + Luebbe, Inc., in Folly Beach, South Carolina. He has been involved with all aspects of sales and service to the pump industry for more than 18 years. Throughout his career, he has been involved with the engineering and sale of nearly every type of pump, from centrifugal through positive displacement.

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**Steve A. Larson** is a Professional Engineer at Cat Pumps Corporation, in Blaine, Minnesota. He is responsible for designing and troubleshooting complete water systems. He has worked his way up in the engineering department from the R&D test lab to a lead engineering position.

Mr. Larson graduated (Hydraulics and Pneumatics) from Alexandria Technical College. He then joined Cat Pumps and, at the same time, attended the Institute of Technology at the University of Minnesota. He graduated with a B.S. degree with Honors (Mechanical Engineering). Mr. Larson is a registered Professional Engineer in the State of Minnesota and has been with Cat Pumps for 17 years.

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**SHORT COURSE 7**  
**on**  
**MEETING EMISSION REGULATIONS WITH THE SCIENCE OF SEALING TECHNOLOGY**

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**Dana Poppa Vermillion** is a Technical Specialist in the Chemical New Source Review Section of the Air Permits Division, with Texas Natural Resource Conservation Commission, in Austin, Texas. She has been with the agency since 1989. In addition to her present position, she has served as a permit engineer, Project Leader, and Team Leader in the Chemical Section. Prior to joining the agency, she was employed for several years by a service company for the oil and gas industry.

Ms. Vermillion received her B.S. degree (Chemical Engineering, 1984) from Texas A&M University and is a registered Professional Engineer in the State of Texas.

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**Jennifer J. Mouton** works as a Senior Environmental Scientist in the Surveillance Division of the Louisiana Department of Environmental Quality. She is responsible for providing technical assistance to the Administrator and for providing guidance to the surveillance staff relative to air quality environmental matters. Ms. Mouton began her career as an air quality specialist with LDEQ 10 years ago. During her career, she conducted numerous air quality compliance inspections and complaint investigations. She also served as team leader on multiprogram major source inspections and has participated in joint federal and state compliance inspections. She has been a presenter at state, EPA, and industry workshops and conferences.

Ms. Mouton has a B.S. degree (Agronomy) and an M.S. degree (Environmental Science) from McNeese State University.

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**James P. (Jim) Netzel** is a Senior Staff Engineer at John Crane Inc., in Morton Grove, Illinois. He joined them in 1963 and has more than 38 years' experience in the science of sealing technology for improving equipment reliability. For 20 years he has served as Chief Engineer. Mr. Netzel's accomplishments include five patents and numerous technical papers and articles published through the International Pump Users Symposia, STLE, ASME, BHRA, AISE, and various trade publications. He has contributed chapters to the *Pump Handbook* and the *Centrifugal Pump Handbook*.

Mr. Netzel received his B.S. degree (Mechanical Engineering, 1963) from the University of Illinois. He is a Society of Tribologists and Lubrication Engineers (STLE) Fellow and is on their Board of Directors. He is past Chairman of the ASME/STLE International Tribology Conference and the STLE Seals Technical Committee. He is an Associate Editor and Editorial Advisory Board member to three industrial trade publications.

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**Michael Huebner** is a Staff Engineer at Flowserve Corporation, Flow Solutions Division, in Deer Park, Texas. He has more than 20 years experience in the design of mechanical seals, centrifugal and positive displacement pumps, and fluid conditioning equipment. For Flowserve, he has served in design, testing, and application functions in both the U.S. and Europe.

Mr. Huebner is a member of the International Pump Users Symposium Advisory Committee and the API 682 Task Force. He received his B.S. degree (Engineering Technology) from Texas A&M University.

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**William A. (Alan) Evans** is Manager of Engineering for the Mechanical Seal Division of A.W. Chesterton Company, in Groveland, Massachusetts. During his eight years with the company, he has held several positions. He has spent 20 years in the field of rotating equipment, focusing primarily on pumps and turbomachinery. He gained broad experience as an end-user of rotating equipment during his 14 years as maintenance/reliability engineer in process industries. Mr. Evans' technological background and experience cover a wide range of topics, including tribology, machine design, predictive maintenance, and reliability engineering. He has conducted lectures, seminars, and presentations on improving reliability as it relates to pumps/seals and pumping systems. He has published articles for STLE, of which he is a member.

Mr. Evans received his MBA from Northeastern University and his BSME from Rochester Institute of Technology. He also has an Associates degree in Applied Science from Pennsylvania State University.

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**Anthony F. (Tony) Soby** is a Staff Engineer with Equilon Enterprises LLC, in Martinez, California. He has been with Equilon Enterprises for a little more than a year and with Shell Oil Company prior to that for 29 years. His primary focus has been equipment reliability improvement. He has been responsible for the development and implementation of vibration monitoring programs for both general purpose and critical process machinery. Most recently, Mr. Soby has completed several reliability improvement projects on hydrogen recycle machines at the Martinez Refining Company including a seal oil system revamp along with seal and bearing upgrades. He is also chairing a committee for the development of a corporate condition monitoring guideline.

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