

DISCUSSION GROUP T9

ADVANCED TOPICS IN CENTRIFUGAL COMPRESSION DESIGN



Mark Sandberg, Coordinator, is a Consulting Machinery Engineer and Technical Team Leader with Chevron Energy Technology Company in Houston, Texas. His current duties involve providing technical assistance and services associated with the selection, design, specification, procurement, and testing of new rotating equipment along with failure analysis and troubleshooting problems with existing equipment, primarily in upstream oil and gas production and LNG processing. Mark has more than 30 years of varied experience in the process industries. Mr. Sandberg has B.S. and M.S. degrees (Mechanical Engineering) from the University of Illinois at Urbana-Champaign, is a registered Professional Engineer in the State of Texas, and is a member of ASME and AIAA.



Leonardo Baldassarre is currently the Engineering Manager for Compressors & Expanders with General Electric Oil & Gas Company, in Florence, Italy. He is responsible for all requisition, standardization, and CAD automation activities as well as for detailed design of new products for centrifugal compressors, reciprocating compressors and turboexpanders both in Florence (Nuovo Pignone), Le Creusot (Thermodyn) & Oshkosh (AC). Dr. Baldassarre received a B.S. degree (Mechanical Engineering, 1993) and Ph.D. degree (Mechanical Engineering/Turbomachinery Fluid Dynamics, 1998) from the University of Florence. He has authored or coauthored 20+ technical papers, mostly in the area of fluid dynamic design of 3D transonic impellers, rotating stall, and rotordynamics. He presently holds four patents.



Urs Baumann is the Manager of the Calculation and Development department of MAN Diesel & Turbo Schweiz AG in Zurich, Switzerland. His responsibilities include the aerodynamic as well as the mechanical development and improvement of turbocompressors and associated components, as well as the implementation and maintenance of test stands and analytical tools needed to fulfill this task. His department comprises also a Product Development Group mainly focussing on high-speed motor driven, magnetically suspended compressors. He is the owner of several patents. Mr. Baumann has a diploma (Mechanical Engineering, 1987) from the Swiss Federal Institute of Technology in Zurich.



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, 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.



J. Jeffrey Moore, Coordinator, is a Principal Engineer at Southwest Research Institute, in San Antonio, Texas. His professional experience over the last 15 years includes engineering and management responsibilities at Solar Turbines, Inc., Dresser-Rand, and Southwest Research Institute. His interests include rotordynamics, seals and bearings, finite element analysis, controls, and aerodynamics. He has authored more than 10 technical papers in the area of rotordynamics and aerodynamics and has given numerous tutorials and lectures. Dr. Moore received his B.S., M.S., and Ph.D. degrees (Mechanical Engineering, 1991, 1993, 1999) from Texas A&M University.



Brian C. Pettinato, is Manager of Product Development at Elliott Group in Jeannette, Pennsylvania. He has been with Elliott Group since 1995. His areas of expertise include lateral and torsional rotordynamics, vibration analysis, and the testing and evaluation of fluid film journal bearings. He currently manages a group responsible for compressor and expander technology development. Prior to joining Elliott Group, Mr. Pettinato worked as a project engineer for an aftermarket bearing manufacturer. Mr. Pettinato received his B.S. (Mechanical Engineering, 1989) and M.S. (Mechanical Engineering, 1992) degrees from the University of Virginia. He has coauthored over ten technical papers, and holds one U.S. patent. He is a registered Professional Engineer in the State of Pennsylvania. He serves on the API 684 rotordynamics task force, and is a member of both ASME and STLE.



Jim Sorokes has been a Principal Engineer at Dresser-Rand with over 35 years of experience in the Turbomachinery industry. Jim joined D-R after graduating from St. Bonaventure University in 1976. He spent 28 years in the Aerodynamics Group, became the Supervisor of Aerodynamics in 1984, and was promoted to Manager of Aero/Thermo Design Engineering in 2001. While in the Aerodynamics Group, his primary responsibilities included the development, design, and analysis of all aerodynamic components of centrifugal compressors. IN 2004, Jim was named Manager of Development Engineering whereupon he became involved in all aspects of new product development and product upgrades. IN 2005, Jim was promoted to principal engineer responsible for various projects related to compressor development and testing. He is also heavily involved in mentoring and training in the field of aerodynamic design, analysis, and testing. Jim is a member of AIAA, ASME, and the ASME Turbomachinery Committee. He has authored or co-authored over forty technical papers and has instructed seminars and tutorials at Texas A&M and Dresser-Rand. He currently holds three U.S. patents and has two others pending. He was elected an ASME Fellow in 2008.