

2020 STLE Houston Section Lube School

Speaker Biographies and Abstracts

Track A

Lubrication Fundamentals - Marianne Duncanson

Marianne Duncanson is a Senior Lubrication Engineer for ExxonMobil. She has over 40 years' experience as a lubrication engineer for ExxonMobil. She spent over 10 years on the lubricants technical hotline answering application questions from around the world. She currently supports the Southeast Texas area as a field Lubrication Engineer. Current areas of expertise include: Refinery and chemical plant lubrication, synthetic fluids for advanced equipment reliability, controlling foam and air entrainment in lubricating oils, oil analysis interpretation, electric motor re-greasing standards, hydrocarbon barrier fluids, and lubrication training. She has conducted industry presentations on Foam and Air Entrainment in Lubricating Oils, Oil/Water Demulsibility, Establishing an Electric Motor Greasing Program. Lubrication of Plain Bearings, and Lubrication Best Practices, and has served on expert panels at the Vibration Institute, as well as the Turbomachinery and Pump Symposium and other industry meetings. She was an original member of the Society of Tribologists and Lubrication Engineers (STLE) Oil Monitoring Analyst (OMA) committee, and was on the editorial board of the STLE magazine *Tribology and Lubrication Technology*. In her spare time she serves as a paramedic for Friendswood Volunteer Fire Department. She is Ooma to four awesome grandchildren and two dogs.

This course will provide an overview of lubricants and their use. Major topics are lubrication fundamentals (wear, functions of a lubricant, lubricant composition, lubricant properties, types of lubricants), contamination control (water, particulates, air, other lubricants, built-in, added, breathers) and reliability topics (proper oil sampling, condition monitoring, lubricant tests and their meaning). Because of the nature of the class and the reference notes provided, this class is an all-day (morning + afternoon) class.

Track B

Synthetic Base Oils and Applications – Ken Hope, ChevronPhillips Chemical Company

Ken Hope is currently Global PAO Technical Services Manager for ChevronPhillips Chemical Company. Prior to this, he was a Research Fellow and Team Leader for NAO and PAO Research and Technology, responsible for the product development, process improvement and technical service for NAO and PAO product lines. He graduated with a Ph.D. in physical chemistry from the University of Alabama at Birmingham in 1988. He has over 25 years of experience in the lubricant industry. His research interests have been primarily focused in the area of polyalphaolefins and the use of synthetic lubricants. He served on the Board of Directors of STLE from 2006 – 2017, STLE's Treasurer and

currently serves at STLE's Secretary. He has instructed the synthetics part of the Basic Lubes course at the Annual Meeting for the last 18 years. He holds a CLS (Certified Lubrication Specialist) and has served on the Editorial Board of the Journal of Lubrication Science and as a Technical Editor for Tribology & Lubrication Technology. He has also presented over 67 technical papers at STLE, NLGI, AICHE, ELGI, UNITI, ACS and SAE meetings and holds 21 US patents.

This presentation will provide a general overview of synthetic base oils, touching on both composition and function. Where appropriate, performance comparisons with conventional base oils will be presented. Applications for synthetic lubricants will be highlighted with example case studies on choosing the best oil or grease for a given application.

Lubrication Related Services – How to Determine the Level of Service Needed During your Next Equipment Overhaul – Sania Munford, Industrial Lubrication Services, LLC

Sania Munford is currently a Sales Manager for Industrial Lubrication Services, LLC. Sania started her career in 1990 in Corpus Christi, TX working sales for a large lubrication company. She quickly moved into lubrication consulting and training, before venturing into the reliability services field. Her expertise and understanding of lubrication and reliability services has allowed her to work with some of the largest clients within the United States for help with sourcing lubricants, lubrication training and consulting services, and lubrication related reliability services. Many of the services she and her company provide include high velocity oil flushing, chemical cleaning, and varnish mitigation methods and service. Oil Filtration and purification methods, contamination control, lubrication program design and implementation, lubricant product recommendations and lubrication application troubleshooting are also areas of expertise. She has also developed and managed lubrication technician programs to provide these types of services to manufacturing facilities along the Gulf Coast region. These programs have provided facilities with the training and proper lubrication techniques to implement best practices for these facilities. These services have an average documented savings of several million dollars per year. She is CLS, OMA, CMRP, MLT, and MLA certified. As a current volunteer on the CLS committee, Sania uses her passion for the industry to not only grow her knowledge, but to also pass along what she has learned to other lubrication professionals. In her spare time, Sania enjoys playing the piano, four wheeling, swimming in her pool, and spending time with her family and two dogs.

This presentation will cover current methodology for determining level of service, planning to determine system condition and service level (oil analysis, separate reservoir sampling, system inspection including operating conditions, performance and system configuration), process to determine service level based on system and oil condition (light contamination, moderate to heavy contamination, heavy contamination and/or rust or varnish), project preparation (survey of asset), project execution, and documentation of results.

New Approaches for Controlling Varnish in Lube and Hydraulic Systems – Corey Cheeks, Traction

Corey Cheeks is an independent consultant who has 20 years of industry experience. He spent 19 years with ExxonMobil in various engineering roles, working with customers in many industries to improve their lubrication programs. He has a degree in Mechanical Engineering from Louisiana Tech University, and holds the STLE C.L.S., O.M.A. I and O.M.A. II. He is an active STLE member and recently helped start up the STLE Louisiana Section. He is also a licensed Professional Engineer.

There is a plethora of varnish mitigation technologies available for mitigating varnish in large-volume lube oil sumps. These technologies are commonly installed on turbine oil reservoirs. However, there are so many other applications where varnish and deposits create reliability concerns, such as hydraulic units, gearboxes, and compressors. Even wind turbines can have performance problems due to deposit formations. Many of these applications have too small of a reservoir to justify installing a varnish mitigation system. Some of these formulations also have additive components that can be removed by several of the varnish mitigation technologies. The presentation illustrates a novel approach to control deposits in these applications and presents several case studies illustrating the benefits of eliminating varnish in these applications such as compressors, pulverizers, wind turbines, and tube drawing applications.

Lubrication Selection, Receiving, Storage and Maintenance Practices and Real World Equipment Issues – Chris Millson, J H Distributing LLC

Chris Millson, General Manager and Technical Sales, J H Distributing LLC, CLS, OMA I, offers expert knowledge and over 20 years industrial field experience to provide the industry with lectures, training and plant visits for reliability recommendations and troubleshooting. Driven to increase knowledge, reliability and reduce maintenance costs, he has developed training for large well-known companies including Ineos, Chevron, Weyerhaeuser, Domtar, Kansas City Power, Florida Power & Light, Orion Marine and others.

This presentation is targeted for new and experienced Maintenance Craftsmen, Lubrication Technicians, Predictive and Preventative Technicians, Planners, Maintenance Managers, Reliability Engineers, as well as for Operators that perform lubrication tasks. It will cover addressing issues, increasing reliability and managing costs through practical actions designed to raise maintenance practices to best in industry standards by creating knowledgeable, confident and motivated maintenance personnel and operators. Employees are inspired to make changes in maintenance practices and procedures that improve worker efficiency, increase equipment reliability and reduce reactive maintenance. Topics covered include proper selection of lubricants (both oils and greases) based on operating environment – temperature, speed and process types of lubrication in equipment (splash, wet and dry sump circulation), confirming on-specification product received from supplier, proper storage of lubricants (protected and

kept clean prior to application in equipment), and maintaining proper levels of lubricants in equipment.

Keynote Address

A Realistic Assessment of both Past and Future of Electric Cars and why the Dutch and German Experiences Differ from the US Emphasis – Heinz Bloch, Reliability Focussed Engineering

Heinz P. Bloch resides in Montgomery, Texas. His professional career commenced in 1962 and included long-term assignments as Exxon Chemical's Regional Machinery Specialist for the U.S. He has authored or co-written over 760 publications, among them 21 comprehensive books on practical machinery management, failure analysis, failure avoidance, compressors, steam turbines, pumps, oil mist lubrication and, in early 2020, "Optimized Equipment Lubrication, Oil Mist Technology, and Storage Protection." He holds B.S. and M.S. degrees (cum laude) in Mechanical Engineering from the Newark College of Engineering (NCE). He is an ASME Life Fellow and was granted life-time registration as a Professional Engineer in New Jersey. In early 2019 he became one of 10 inaugural inductees into NCE's Hall of Fame, which honors its most distinguished graduates.