STLE’s 2013 Annual Meeting & Exhibition features 12 one-day courses. If you have not yet signed up for a course but would like to, go to the Registration Desk (Ambassador Foyer (L3)).

Courses start at 8 am and end at 5 pm, but please check the errata included in your registration bag to verify. Some times might change slightly.

Sunday, May 5

- An Introduction to Corrosion (co-hosted with ASM International)
- Basic Lubrication 101: Fundamentals of Lubrication
- BioFuels & Lubes
- Condition Monitoring 301: 21st Century Condition Monitoring
- Grease and Its Lubrication in Rolling Element Bearings (co-hosted with ABMA)
- MWF 105: Metal Forming Fluids
- Synthetic Lubricants 203: Non-Petroleum Fluids and Their Uses.

AN INTRODUCTION TO CORROSION
(Co-hosted with ASM International)
Cadillac A – L5
Instructor: Thomas Glasgow
Curious about corrosion? You should be. Corrosion destroys about $400 billion of value in the U.S. each year and a proportionate amount in all other countries. It is costly, dangerous, wasteful and often unsightly. It is at work in your business, home, auto and yacht. Environments in which corrosion occurs range from moist air to saltwater, from pipelines to airlines and possibly within the concrete of the bridges in your daily commute.

In this short course you will learn about the major forms of corrosion and the driving forces behind corrosion. Understanding the driving forces is the beginning to limiting or even avoiding the damage and danger corrosion presents. You will become familiar with the terminology needed to employ the provided textbook, allowing you to solve problems well beyond those covered in class.

Annual Meeting Registration not required to take this course and is not included in this price.

BIOFUELS & LUBES
Richard B – L5
Instructors: Girma Biresaw, Joseph Perez, Neil Canter, Mark Miller, Ben Müller-Zermini
This course is an overview of current progress on the use of biofuels and biolubricants. Course elements include an introduction to energy and alternative sources, some basic chemistry of vegetable oils, general performance requirements, overviews of market progress, niche markets and governmental and regulatory drivers. Information on European, U.S. and OEM views will be included. Primary focus is on lubricants but includes a general overview of alternative transportation fuels. Biodiesel feedstocks, production and quality issues also are covered.

Annual Meeting Registration is required to take this course.

BASIC LUBRICATION 101: FUNDAMENTALS OF LUBRICATION
Joliet A/B – L5
Instructors: John Rosenbaum, Chris Schmid, John Sewall, Ken Dulinski, Ray Thibault and Rob Coffin
Basic Lubrication 101 is an introduction to lubricants, lubrication principles, base oils, additives and compounded fluids. This course does not require the student to have a formal scientific degree or background, although many technical terms and concepts related to lubricants and their composition are covered. Basic Lubrication 101 is intended for a diverse group, including people involved in technical service, sales, marketing, manufacturing, maintenance and management who want to know more about lubricant products and how they work. Basic Lubrication 101 is designed specifically for those new to the lubrication industry.

Annual Meeting Registration is required to take this course.
CONDITON MONITORING 301: 21ST CENTURY CONDITION MONITORING
Richard A – L5
Instructors: Evan Zabawski, Chad Chichester, Allison Toms and Jack Poley
This course is targeted to advanced-experience levels. Attendees should have a very good to strong familiarity with condition monitoring’s role in modern maintenance schema, particularly oil analysis. It is designed for those routinely involved in condition monitoring. The following notions are explored:
• Advanced Data Interpretation: Mining Data for Trends, Patterns and Proper Alarms
• Condition Monitoring (CM) Techniques Complementary to Oil Analysis
• Impact of Machinery Configuration and Operations on Monitoring Techniques and Data Interpretation
• Changing Paradigms in CM: Online Oil Analysis, Extended Particle Analysis, Software.
Emphasis is on current techniques and practices (including new tests, instrumentation and concepts), increasing use of software, and modern data evaluation strategies, all taught by practicing experts.
Annual Meeting Registration is required to take this course.

GREASE LUBRICATION IN ROLLING ELEMENT BEARINGS
(Co-hosted with ABMA)
Brule B – L5
Instructors: Les Miller, Jim Oliver, Scott Hyde, Paul Conley and Piet Lugt
STLE and ABMA are offering this course for those involved in industrial equipment design, reliability and maintenance. Included is a basic overview of bearings, their selection and lubrication-related influences. A special half-day focus is provided for grease lubrication in rolling element bearings. This new focal piece is provided by Piet Lugt and is based on the body of work found in a new book titled Grease Lubrication in Rolling Element Bearings. The program starts at 8 am with sign-in and introductions and finish at 5 pm. Lunch provided. Bonus: 10 free books will be given away at random during this course—attend to be one of the lucky winners!
Annual Meeting Registration not required to take this course and is not included in this price.

METALWORKING FLUIDS 105: METAL FORMING FLUIDS
Cadillac B – L5
Instructors: Rick Butler, Neil Canter, Ted McClure, Al Eachus and John Burke
This course is designed for those involved in developing, working with and using metal forming fluids in the manufacturing environment. In particular, the metal forming course is very useful for formulators, technical service representatives, shop floor personnel and coolant service managers, all of whom need to know more about the fundamental concepts of metal forming fluids. Course is divided into modules covering metal forming operations, metal forming fluid chemistry, metal forming fluid failure mechanisms, controlling contamination and microbial growth, waste treatment and operator acceptance. By the end of the course, participants will have gained a good understanding of metal forming operations, formulation of metal forming fluids, tools for identifying and correcting metal forming fluid failures and waste treatment of metal forming fluids. This course will also help students understand key building blocks that can be used in preparation for the STLE Certified Metalworking Fluids Specialist certification. This certification meets a growing need for a professional credential that demonstrates knowledge and competency in this fast-changing segment of the lubricants industry.
Annual Meeting Registration is required to take this course.

SYNTHETIC LUBRICANTS 203: NON-PETROLEUM FLUIDS AND THEIR USES
Brule A – L5
Instructors: Michael Costello, Brian Jazdzewski, Sandra Walker, Rob Coffin, Gene Zehler, Thomas Blunt, Beth Winsett and W. David Phillips
The Synthetic Fluids 203 course provides an overview of non-petroleum-based lubricants, their comparison to each other and to petroleum oil. Each section covers the chemistry, strength and weaknesses of each material and basic application. Course is designed primarily for formulators and users of lubricating materials.
Looking for Synthetic Lubricants 204: Fluid Formulation and Applications? Not to worry, it will be offered at the 2014 STLE Annual Meeting in Lake Buena Vista, Florida.
Annual Meeting Registration is required to take this course.
Courses start at 8 am and end at 5 pm, but please check the errata included in your registration bag to verify. Some times might change slightly.

Wednesday, May 8

- Basic Lubrication 102: Basic Applications
- Advanced Lubrication 301
- Automotive Lubrication 201: Gasoline
- Hydraulics 101: Basic Fluids & Applications
- MWF 250: Understanding and Controlling Metal Removal Fluid Failure.

BASIC LUBRICATION 102: BASIC APPLICATIONS
Marquette A – L5
Instructors: John Hermann, Chris Decker, Steve Lemberger, Rick Russo, Paul Shiller and Sam Vallas
This course is an overview of equipment systems (gears, bearings, seals, compressors and engines) and their lubrication requirements, including a module on grease. Like Basic Lubrication 101, this course does not require the student to have a formal scientific degree or background, although many technical terms and concepts related to the use of lubricants in various mechanical devices are covered. Basic Lubrication 102 is intended for a diverse group, including people involved in technical service, sales, marketing, manufacturing, maintenance and management who want to know more about how lubricants work in service. This course assumes fundamental knowledge of lubricants and lubrication principles, as presented in Basic Lubrication 101.
Annual Meeting Registration is required to take this course.

ADVANCED LUBRICATION 301
Ambassador 1
Instructors: Eugene Scanlon, Michael Covitch and Paul Sutor
This is a higher-level course on tribology, lubricants and lubricant formulation. Experienced professionals, including those who have completed STLE's Basic Lubrication course, will benefit from this more focused and advanced session on lubricant technology. This course assumes fundamental knowledge of lubricants and lubrication principles or completion of Basic Lubrication 101-102. Advanced Lubrication 301 targets individuals employed by oil and additive companies, experienced lubricant end-users and other technical professionals interested in expanding their basic lubrication knowledge.
Key concepts include wear, wear mechanisms and how to diagnose wear problems from equipment failure. There is a detailed discussion on the types of additives used in lubricants—how they work and how they are formulated into packages. A major emphasis is on the concepts of oil rheology with discussions on how VI Improvers function and the low- and high-temperature properties of lubricants.
Annual Meeting Registration is required to take this course.

AUTOMOTIVE LUBRICATION 201: GASOLINE
Marquette B – L5
Instructors: Edward Becker, Chintan Ved, Ryan D. Evans, Val Dunaevsky and Donald Cohen
This brand new course is a comprehensive overview of the various aspects of a typical automotive tribological system including engine, transmission, driveline and other powertrain components. Lubrication and surface engineering principles are applied to provide a unified approach to practical automotive powertrain systems.
Key topics include:
• Automotive Engine Hardware Overview
• Automatic Transmission and Vehicle Drivetrain Overview
• Engine Oils and Transmission Fluids
• Engine and Vehicle Bearings
• Piston and Piston Ring Friction and Lubrication
• Surface Texture Measurement/Analysis for Automotive Applications
• The Future of Automotive Propulsion.
Annual Meeting Registration is required to take this course.
HYDRAULICS 101: BASIC FLUIDS & APPLICATIONS
Ambassador 2
Instructors: Nathan Knotts, Tom Blansett, John Sherman, Paul Michael and Greg Livingstone
This course provides an overview of the principles of lubrication, fluid power transmission and hydraulic fluid property and performance requirements. In particular, the instructors discuss the composition of industrial hydraulic fluids and the property and performance comparison of hydraulic fluids based on different base stocks. Requirements for specialized hydraulic fluids, including fire-resistant and environmentally acceptable fluids, are reviewed as well as current trends in the hydraulics industry. The objective of this course is to provide participants with a working knowledge of hydraulics, the types of hydraulic fluids used in industry and the reasons why specific fluids are used for certain applications. It also includes case studies of issues and problems that people in the hydraulics industry may encounter and how these problems were resolved.
Annual Meeting Registration is required to take this course.

METALWORKING FLUIDS 250: UNDERSTANDING AND CONTROLLING METAL REMOVAL FLUID FAILURE
Ambassador 3
Instructors: Fred Passman, John Burke, Dave Hanney, Gary Rodak, John Steigerwald, and Greg Foltz
Once a metalworking fluid (MWF) has been qualified for use in an application, its performance depends on successful fluid management. In turn, successful fluid management depends on a fundamental understanding of the factors that work against fluid life and fluid performance, as well as cost-effective strategies for preventing these factors from causing MWF failure. MWF 250 is designed to meet both of these needs. It covers primary failure mechanisms, including the effect of contaminant particle size, water quality, microbes and oil contamination. Also presented are recommendations on how best to prevent each of these factors from destroying MWF performance and shortening MWF functional life. The instructor team is made of internationally recognized experts who have an average of more than 30 years MWF management experience.
This course is designed for those involved in developing, working with and using metalworking fluids.
Annual Meeting Registration is required to take this course.

FREE NANOTRIBOLOGY HALF-DAY SHORT COURSE
Molecular Dynamics Simulation in Nanotribology
Sunday, May 5 • 1:30 – 5 pm
LaSalle Room (L5-A)
Although not a part of the official education-course curriculum, STLE is offering this free half-day course to 2013 Annual Meeting attendees. The workshop is instructed by two experts in molecular dynamics (MD) simulations:
• Dr. Judith A. Harrison, U.S. Naval Academy, Annapolis, Md.
• Dr. Ashlie Martini, University of California-Merced, Merced, Calif.
Drs. Harrison and Martini will cover the basic concepts of MD simulation and applications in nanotribology. The workshop is open to participants at any level, but the lectures focus on basic concepts and assume no prior MD experience.
Local Section Leadership Workshop

Sunday, May 5 • 5 – 6:30 pm • Greco Room (L5)

Personality Assessment: “This job is for the birds!”

Presented by Dr. Jean K. Becker

Finding members willing to volunteer and become officers is an ongoing challenge for most organizations, and STLE is no exception. Analyzing the job and identifying which type of personality is a good match for it greatly increases the probability that the job will be done well and the member happy to continue contributing in the section.

Some of us love to work with people and stand in front of a crowd. For others the same requirements would define the job from hell. For extroverts, working alone to edit the newsletter is dull, dull, dull. For those who love to think quietly and enjoy writing, being asked to edit the newsletter is an honor. How do we tell what potential volunteer to approach so that we find a good match that is pleasing to both the member and the section?

Dr. Becker offers a light-hearted, five-minute quiz to help you identify which of four personality types—owl, dove, eagle or peacock—best defines you. Then she’ll invite the “birds of a feather” to flock together in the room. Each bird flock will explain to the others what they like and don’t like, how to get their attention and how to motivate them.

Fortunately, there are jobs to do in a local section that need the skills and preferences of all four groups. Some offices can be modified to better fit the volunteers you have available. Other times the solution is to combine the efforts of more than one type of bird. Learn how to make the most of the volunteers you have and the importance of good job descriptions. Since there is a persistent rumor that engineering groups tend to have lots of introverts, extra time will be devoted to describing the special gifts of introverts and how to turn them into assets.

At the end of this session, you will:

• Know if you are an owl, dove, eagle or peacock.
• Get to meet others who share your personality type.
• Identify what specific skills you have to offer an STLE local section.
• Tell those with different personalities how to best communicate with you.
• Identify what you find most challenging, and where you would appreciate support.
• Tell others what sorts of rewards and recognition make you want to serve again.
• Hear and understand more about the other three groups.
• Recognize common volunteer jobs that are a good fit for each type.
• Understand more about the strengths of introverts, and how they can contribute.
• Learn how matching the person and the job ensures jobs well done and happy volunteers.

Dr. Jean K. Becker owns and operates The Emerald Frog, a management-consulting firm that provides training to for-profit and not-for-profit businesses. She is currently the President of the Michigan Alliance for Gifted Education.