

## STLE Education Catalog





Society of Tribologists and Lubrication Engineers

## About STLE

**The Society of Tribologists and Lubrication Engineers (STLE)** is the premier technical society serving the needs of more than 15,000 individuals and 200 companies and organizations that comprise the tribology and lubrication engineering business sector. STLE members are technical experts who research, develop and market the methods and products that make industry more successful and that enhance the well-being of people worldwide. Our members are employed by the world's leading corporations, academic institutions and governmental agencies dealing with science and technology. STLE supports these distinguished men and women with a variety of professional education and certification programs.

STLE's mission is to advance the science of tribology and the practice of lubrication engineering in order to foster innovation, improve the performance of equipment and products, conserve resources and protect the environment. The Society's vision is to be a leader in the global network of individuals, institutions, societies and corporate entities with a common interest in advancing the science of tribology and the practice of lubrication engineering.

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To explore this content on your own, [click here](#) for our learning management system homepage.

Working on an STLE Certification? Many of our offerings can help you reach your goal. Items in the catalog are marked with asterisks that help you prepare for these certifications:

\*[Certified Lubrication Specialist™ \(CLS\)](#)

\*[Certified Metalworking Fluids Specialist™ \(CMFS\)](#)

\*[Certified Oil Monitoring Analyst™ \(OMA\)](#)

\*[Certified Oil Monitoring Expert™ \(OMX\)](#)

# STLE CERTIFICATION

Invest in your greatest asset—yourself.

## Credibility. Respect. Integrity.

Those are the qualities immediately conferred upon you when you attain one of STLE's technical certifications. Becoming STLE certified not only verifies your technical expertise, it demonstrates your professional dedication to your employer, customers and peers.

STLE offers these technical certifications:

**Certified Lubrication Specialist™**

**Certified Oil Monitoring Analyst™**

**Certified Oil Monitoring Expert**

**Certified Metalworking Fluids Specialist™**

STLE's testing platform allows you to schedule and take tests in the same way you register and attend an STLE webinar. No downloads or codes—just log in, pick a time and take the exam.

For more information, visit [www.pathlms.com/stle/pages/certification](http://www.pathlms.com/stle/pages/certification) or scan the QR code:

Questions? Contact STLE at [certification@stle.org](mailto:certification@stle.org) or 847-993-7919.



*"When employers in the industry see STLE certifications on a resume, they can be assured that this is a person who has proven industry knowledge and values continuing education."*

*"The CMFS certification has increased my credibility with employers, customers and clients with whom I've consulted."*



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Society of Tribologists and Lubrication Engineers

## Introduction

An investment in education is an investment in yourself. According to Dr. Anthony Carnivale of the Georgetown University Center for Education and Workforce, learning now contributes more to overall gross domestic product and productivity than technology. The value in continuing your education and keeping current with your industry is invaluable. STLE is here to help as we see this value in learning and continue to evolve our catalogue responsibly to keep you updated with the most current trends while solidifying your foundational skills in content you can trust.

As the global leader in tribology and lubrication engineering, STLE is proud to offer a diverse catalog of educational opportunities designed to support lifelong learning and professional development.

This catalog features a robust selection of webinars, on-demand learning, and specialized courses covering a wide range of topic areas—from lubrication fundamentals to sustainability. Whether you're new to the field or a seasoned professional, STLE's flexible, expert-led programs are tailored to help you stay informed, sharpen your skills, and advance your career.

Explore our offerings to find the right learning path for you, your team, or your organization. STLE is here to support your commitment to excellence in tribology and lubrication engineering. [Click here](#) to access this great educational content.

If you have an idea for a webinar, short course, or would like to host one, please contact STLE Director of Professional Development Robert Morowczynski at [rmorowczynski@stle.org](mailto:rmorowczynski@stle.org) or (847) 993-7919. We would love to have you present and share your expertise with our community.

## Additives

### Lubricant Composition Short Course

This two-hour course covers lubricant additives, base oil chemistries, and three in-depth modules on grease—its composition, testing, and application—to provide a comprehensive foundation in lubricant formulation and selection.

**Pricing: members \$99, nonmembers \$149**

### Antiwear Additives and Friction Modifiers

This presentation explores wear mechanisms, lubrication regimes, and key testing methods to highlight how antiwear additives and friction modifiers enhance lubricant performance and extend equipment life.

**Presenter: Bridgett Rakestraw**

**Pricing: members \$39, nonmembers \$59**

### Basic of Lubricant Additives

This presentation covers the classifications, functions, and mechanisms of lubricant additives, highlighting how components like detergents, dispersants, antiwear agents, and inhibitors work together to protect equipment and enhance lubricant performance.

**Presenter: Chris Schmid**

**Pricing: members \$39, nonmembers \$59**

### The Chemistry and Function of Lubricant Additives

This presentation provides a comprehensive overview of key additive types used in industrial lubricants, engine oils, and greases, covering their chemistry, functions, formulation strategies, and performance impacts across various lubricant applications.

**Presenter: Dr. Vincent Gatto**

**Pricing: members \$39, nonmembers \$59**

### Performance Additives for Lubricating Greases

This presentation examines the role of physical and chemical additives in lubricating grease, exploring how they influence performance properties, their functions compared to liquid lubricants, and typical treat rates used in grease formulations.

**Presenter: Dr. Gareth Fish**

**Pricing: members \$39, nonmembers \$59**

### Effective Use of Organo-Molybdenum Compounds in Lubricants

This course reviews the types, functions, and evolving applications of organo-molybdenum additives in lubricants—highlighting their benefits in friction reduction, wear protection, and fuel economy across engine oils, industrial lubricants, and greases.

**Presenter: Dr. Vincent Gatto**

**Pricing: members \$39, nonmembers \$59**



## Base Oils

### [Base Oils Groups I-V](#)\*

This presentation explores the growing variety of lubricant base stocks—including mineral, synthetic, re-refined, and gas-to-liquid (GTL) oils—examining their properties, classifications, manufacturing methods, and how they influence finished lubricant performance and formulation strategies.

**Presenter: John Rosenbaum**

**Pricing: members \$39, nonmembers \$59**

### [Basic Synthetics](#)\*

This introductory course covers the benefits, types, and cost considerations of synthetic lubricants, with a focus on their use in nine key industrial and automotive applications.

**Presenter: Dr. Robert Gresham**

**Pricing: members \$39, nonmembers \$59**

### [PAGs - Present & Future Applications](#)\*

This course explores polyalkylene glycol (PAG) technology, including their chemistry, performance properties, and applications, with a focus on recent innovations like oil-soluble PAGs and their role in addressing modern tribology challenges.

**Presenter: Martin Greaves**

**Pricing: members \$39, nonmembers \$59**

### [Challenges Using Environmentally Friendly Fluids](#)\*

This course examines the challenges, definitions, and regulatory programs related to environmentally friendly lubricants, highlighting key performance concerns, application guidelines, and the future outlook for biodegradable lubricant technologies.

**Presenter: Dr. Neil Canter**

**Pricing: members \$39, nonmembers \$59**

### [Esters](#)\*

This webinar provides a comprehensive overview of organic ester base stocks, covering their chemistry, properties, performance factors, and applications across industrial and automotive sectors, with insights into challenges and real-world case studies.

**Presenter: Gene Zehler**

**Pricing: members \$39, nonmembers \$59**

## Base Oils (*continued*)

### [Base Oils](#)★

This presentation reviews the expanding variety of base oils—including mineral, synthetic, re-refined, and GTL types—their classifications and properties, and explores how understanding these factors helps optimize lubricant formulations for maximum performance and value.

**Presenter: Selda Günsel**

**Pricing: members \$39, nonmembers \$59**

### [Re-Refining 101](#)★

This course will follow the closed loop re-refining process from used oil collection and re-refining processes, including used oil acceptance criteria, dehydration, distillation, and hydrotreating to base oil typical properties and finally finished (blended) products.

**Presenter: Scott Walker**

**Pricing: members \$39, nonmembers \$59**

### [Base Oils for Environmental Lubricants Short Course](#)★

Coming soon!

**Presenter: Larry Beaver and Lynn Massad**

**Pricing: members \$99, nonmembers \$149**



## Electric Vehicles

### [Next Generation Driveline Lubricant for HEV/EVs\\*](#)

This course explores the unique performance requirements of next-generation driveline lubricants for hybrid and electric vehicles, focusing on their dual role as both lubricants and motor coolants in PowerSplit transmissions and e-axes.

**Presenter: Arup Gangopadhyay**

**Pricing: members \$39, nonmembers \$59**

### [The Tribology of Piston Rings & Why it Matters in an EV World\\*](#)

This course examines the tribology of the piston ring–cylinder wall interface, its impact on engine efficiency, and how advancements in this area can contribute to a more sustainable future for internal combustion engines amid the shift toward electrification.

**Presenter: Lake Speed Jr.**

**Pricing: members \$39, nonmembers \$59**

### [Test Methods for Evaluation of Electric Vehicles\\*](#)

This presentation reviews current test methods for evaluating electric vehicle (EV) lubricants and coolants, examines their effectiveness in high-speed and thermally demanding environments, and explores the need for new or adapted evaluation techniques to meet evolving EV requirements.

**Presenter: Rebecca Warden**

**Pricing: members \$39, nonmembers \$59**

## Grease

### [Fundamentals of Grease](#)\*

This webinar covers the fundamentals of grease—including composition, manufacturing, and key performance properties—providing participants with the knowledge to select, apply, and manage greases effectively in industrial applications.

**Presenter: Dr. Robert Gresham**

**Pricing: members \$39, nonmembers \$59**

### [Grease Compatibility](#)\*

This webinar explores grease compatibility, highlighting the risks of mixing incompatible greases, how constituent materials affect performance, and best practices for compatibility testing during grease conversions.

**Presenter: H.R. Braun**

**Pricing: members \$39, nonmembers \$59**

### [Grease Selection for Rolling Element Bearings](#)\*

This course reviews the fundamentals of grease selection for ball and roller bearings, covering viscosity, thickener types, application considerations, and how to navigate grease choices using current marketing literature.

**Presenter: Dr. Paul Shiller**

**Pricing: members \$39, nonmembers \$59**

### [Calcium Sulfonate Complex Greases](#)\*

This presentation provides an overview of calcium sulfonate complex grease technology, highlighting its manufacturing differences, key performance properties, and growing use across demanding applications where heat, water, and high loads are present.

**Presenter: Wayne Mackwood**

**Pricing: members \$39, nonmembers \$59**

### [Selecting Lubricating Greases](#)\*

This webinar explores key factors in selecting lubricating greases, including base oils, thickeners, additives, and operating conditions, to help attendees make informed choices that enhance performance and reduce equipment downtime.

**Presenter: Dr. Anoop Kumar**

**Pricing: members \$39, nonmembers \$59**

## Grease (*continued*)

### Grease Manufacturing\*

This webinar explores the grease manufacturing process, covering key components, saponification chemistry, production methods, and critical process factors to help attendees understand how grease properties are developed and controlled.

**Presenter: David Turner**

**Pricing: members \$39, nonmembers \$59**

### What are PMA (Poly(methyl acrylate)), why to use them, and when to use them\*

This presentation explains how the chemical properties of polymethacrylates (PMAs), such as molecular weight and shear stability, can be manipulated to improve a fluid's performance by optimizing viscosity and reducing friction.

**Presenter: Gavin Duckworth**

**Pricing: members \$39, nonmembers \$59**

### Lubricating Grease - Technology, Evolution, Evaluation, and Sustainable Lubrication Solutions\*

This presentation provides a comprehensive overview of grease, covering its fundamental chemistry, global evolution, key performance characteristics, and testing methodologies to guide the selection of appropriate grease solutions for various industrial applications.

**Presenter: Anuj Mistry**

**Pricing: members \$39, nonmembers \$59**

## Lubricant Application

### [Gas Engine Oil for Biogas Applications](#)\*

This presentation explains the critical importance of selecting the right gas engine oil for biogas applications to address fuel-related challenges like contaminants and harmful chemical reactions, ultimately optimizing engine performance and extending its lifespan.

**Presenter: Peter Hartevelde**

**Pricing: members \$39, nonmembers \$59**

### [Gear Failure Analysis](#)\*

Focusing on prevention and enhanced equipment reliability, this presentation examines the causes and identification of various gear failure modes by analyzing the critical roles of design factors and proper lubrication.

**Presenter: Lawrence Ludwig**

**Pricing: members \$39, nonmembers \$59**

### [Air Compressors & Their Lubrication](#)\*

This webinar covers the fundamentals of air compressor lubrication, detailing how to select the proper lubricant—with a focus on synthetics for positive displacement compressors—to overcome harsh operating conditions and modern design challenges, thereby improving efficiency and extending service life.

**Presenter: Glenn Short**

**Pricing: members \$39, nonmembers \$59**

### [Grease and Oil Lubrication Failure Analysis](#)\*

This webinar covers the fundamentals of air compressor lubrication, detailing how to select the proper lubricant—with a focus on synthetics for positive displacement compressors—to overcome harsh operating conditions and modern design challenges, thereby improving efficiency and extending service life.

**Presenter: Dr. Paul Shiller**

**Pricing: members \$39, nonmembers \$59**

### [Bearing Damage Analysis](#)\*

This webinar covers bearing damage analysis by examining common mechanical damage types (abrasive wear, bruising, denting, spalling) and their causes (contamination, overloading, poor lubrication), while emphasizing proper maintenance and quality lubricants as key prevention strategies.

**Presenter: Dr. Paul Shiller**

**Pricing: members \$39, nonmembers \$59**

## Lubricant Application (*continued*)

### Challenges to Formulating and Selecting Gear Lubricants\*

This course covers gear fundamentals, operational challenges, and gear lubricants, including their performance characteristics, types, base oils, additives, specifications, and selection criteria.

**Presenter: Lawrence Ludwig**

**Pricing: members \$39, nonmembers \$59**

### Fundamentals of Industrial Enclosed Gears\*

This course explores industrial gear drive lubrication challenges across various industries, covering how gear lubricants must perform under harsh conditions (moisture, temperature extremes, contamination, high loads) and addressing modern design trends toward smaller, higher-speed drives, while teaching gear fundamentals, lubricant types, key properties, and proper selection criteria.

**Presenter: Lawrence Ludwig**

**Pricing: members \$39, nonmembers \$59**

### Determining & Solving Varnish Problems\*

This course examines turbine lubricant varnish formation, explaining how understanding deposit chemistry helps identify root causes and select appropriate contamination control technologies to prevent future deposit-related operational issues.

**Presenter: Dr. Dave Wooton**

**Pricing: members \$39, nonmembers \$59**

### Fundamentals of Wind Turbines\*

This webinar covers wind energy fundamentals, including the history of wind power, modern turbine design, operational physics and mechanics, and engineering aspects of different turbine types, highlighting wind energy's rapid growth and potential as a leading renewable energy source.

**Presenter: Dr. Harpal Singh**

**Pricing: members \$39, nonmembers \$59**

### Bearing Damage Analysis Pt. II: Beyond REB\*

This course focuses on bearing maintenance and damage analysis for non-rolling element bearings (plain, journal, sliding contact), covering four damage categories (mechanical, chemical, thermal, electrical) and their causes, including inadequate lubrication, mishandling, and improper installation, to help optimize equipment performance and reduce downtime.

**Presenter: Dr. Paul Shiller**

**Pricing: members \$39, nonmembers \$59**

## Lubricant Application (*continued*)

### Bearing Fundamentals\*

This introductory course covers the 20 types of bearings (plain, rolling element, and miscellaneous), their appearance and primary functions, followed by general bearing lubrication principles and methods for newcomers to the industry.

**Presenter: Dr. Robert Gresham**

**Pricing: members \$39, nonmembers \$59**

### Gas and Process Compressors & Their Lubrication\*

This course covers compressor lubricants used in petroleum, chemical, and gas industries, focusing on proper selection of mineral and synthetic lubricants for positive displacement and other compressors to ensure gas compatibility, improve efficiency, reduce downtime, and enhance reliability in critical industrial operations.

**Presenter: Glenn Short**

**Pricing: members \$39, nonmembers \$59**

### Lubrication Selection - Rolling Element Bearing\*

This course covers the decision-making process for selecting oil versus grease for rolling element bearings and determining the appropriate lubricant properties (thickener type, base oil viscosity, additives) based on specific operating conditions, bearing size, and type.

**Presenter: Jim Oliver**

**Pricing: members \$39, nonmembers \$59**

## Lubrication Fundamentals

### [Gas Engine Oil for Biogas Applications](#)\*

This presentation examines gas engine oil selection for biogas applications, addressing the unique challenges of varying biogas composition and contaminants, and how proper oil selection mitigates oxidation, nitration, and sulfation issues to optimize engine performance and extend equipment lifespan.

**Presenter: Peter Hartevel**

**Pricing: members \$39, nonmembers \$59**

### [Gear Failure Analysis](#)\*

This presentation explores gear failure analysis by examining failure modes (surface fatigue, wear, plastic flow, breakage), design factors (Hertzian strength, thermal rating, backlash, clearance), and the critical role of proper lubrication in preventing failures and extending gear life for improved equipment reliability.

**Presenter: Lawrence Ludwig**

**Pricing: members \$39, nonmembers \$59**

### [Air Compressors and Their Lubrication](#)\*

This webinar covers the fundamentals of air compressor lubrication, detailing how to select the proper lubricant—with a focus on synthetics for positive displacement compressors—to overcome harsh operating conditions and modern design challenges, thereby improving efficiency and extending service life.

**Presenter: Glenn Short**

**Pricing: members \$39, nonmembers \$59**

### [Grease and Oil Lubrication Failure Analysis](#)\*

This course examines lubricant failure modes (oxidation, degradation, contamination) as the cause of approximately 50% of bearing failures, covering how to assess lubricant health through testing (viscosity, acid level, water level, contamination) and identify when lubricants have reached end of service life.

**Presenter: Dr. Paul Shiller**

**Pricing: members \$39, nonmembers \$59**

### [Bearing Damage Analysis](#)\*

This webinar covers bearing damage analysis by examining common mechanical damage types (abrasive wear, bruising, denting, spalling) and their causes (contamination, overloading, poor lubrication), while emphasizing proper maintenance and quality lubricants as key prevention strategies.

**Presenter: Dr. Paul Shiller**

**Pricing: members \$39, nonmembers \$59**



## Lubrication Fundamentals (*continued*)

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**Presenter: Dr. Dave Wooton**

**Pricing: members \$39, nonmembers \$59**

## Metalworking Fluids

### [Root Cause Failure Analysis](#)\*

This webinar explains how to conduct a rigorous root cause failure analysis (RCFA) to move beyond superficial symptoms and address the underlying systemic issues that cause equipment failures, ultimately enhancing reliability and operational efficiency.

**Presenter: Neville Sachs**

**Pricing: members \$39, nonmembers \$59**

### [Condition Monitoring of Metalworking Fluids](#)\*

This webinar covers the essential tests for monitoring the condition of your metalworking fluid over time and how to apply that data to maintain optimum performance.

**Presenter: Dr. Neil Canter**

**Pricing: members \$39, nonmembers \$59**

### [Corrosion Inhibitors](#)\*

This webinar provides a comprehensive overview of corrosion inhibitors for metalworking fluids, covering the types, mechanisms, and market trends you need to know to optimize formulations for enhanced performance and extended equipment life.

**Presenter: Britt Minch**

**Pricing: members \$39, nonmembers \$59**

### [Metalworking Fluids Short Course](#)\*

This course is presented in two parts and covers types and functions of metalworking fluids as well as guidelines for recommending specific metal removal fluids for a given application.

**Pricing: members \$99, nonmembers \$149**

### [EP Additives as Chlorinate Paraffin](#)\*

This webinar evaluates the performance and characteristics of alternative extreme pressure (EP) additives, such as phosphorus and sulfur-based compounds, to help you make informed decisions when replacing chlorinated paraffins in your metalworking fluids.

**Presenter: Gabe Kirsch**

**Pricing: members \$39, nonmembers \$59**

### [Guidelines for Selecting MWF Additives](#)\*

This webinar offers strategies for selecting the optimal mix of additives, such as emulsifiers and extreme pressure agents, to help you formulate stable, high-performance metalworking fluids that comply with diverse operational conditions and global health and safety standards.

**Presenter: Dr. Neil Canter**

**Pricing: members \$39, nonmembers \$59**

## Metalworking Fluids (*continued*)

### [Emulsifiers 201](#)\*

This webinar explores the fundamentals of emulsification and formulation strategies for water-based metalworking fluids, aiming to bridge traditional expertise with scientific approaches for a new generation of formulators.

**Presenter: Joe Schultz and Tom Oleksiak**

**Pricing: members \$39, nonmembers \$59**

### [Controlling Microbial Contamination in Water-Miscible Metalworking Fluids](#)\*

This webinar covers strategies for controlling microbial contamination in water-miscible metalworking fluids, including the use of microbicides, bioresistant additives, and biofilm management to extend fluid performance life.

**Presenter: Dr. Fred Passman**

**Pricing: members \$39, nonmembers \$59**

### [A Review of Foam and Defoamer Theory for Aqueous Industrial Fluids](#)\*

This webinar examines the role of defoamers in aqueous metal removal and cleaning fluids, exploring foam causes, defoamer chemistries, performance factors, and testing methods to ensure long-term effectiveness.

**Presenter: Stefanie Velez**

**Pricing: members \$39, nonmembers \$59**

### [Practical Metalworking Fluid Operational Considerations for Chemical Managers](#)\*

This webinar provides practical guidance on managing metalworking fluids, covering system design, fluid monitoring, plant condition impacts, and communication strategies to improve performance and operational efficiency.

**Presenter: Rick Butler**

**Pricing: members \$39, nonmembers \$59**

### [Troubleshooting MWF Problems Short Course](#)\*

This course offers practical troubleshooting techniques for addressing metalworking fluid issues in the field, focusing on both operational and fluid-related challenges to enhance performance and solve common problems.

**Presenter: Pat Brutto**

**Pricing: members \$39, nonmembers \$59**

## Oil Analysis/Condition Monitoring & Handling

### [Test Methods for Lubricants](#)\*

This webinar discusses the various ASTM tests used to evaluate lubricant performance, emphasizing testing procedures, results interpretation, and their correlation to field performance to help inform lubricant decisions.

**Presenter: Ray Thibault**

**Pricing: members \$39, nonmembers \$59**

### [Why Hydraulic Fluids Fail](#)\*

This presentation explores the common causes of hydraulic fluid failure in industrial applications, discussing the chemical and physical changes that lead to varnish and deposits, their detrimental effects on system performance, and the importance of advanced testing methods like ultracentrifugation and membrane patch colorimetry for effective condition monitoring and failure prevention.

**Presenter: Greg Livingstone**

**Pricing: members \$39, nonmembers \$59**

## Sustainability

### [Proposals in the Use of Chlorinated Paraffins](#)

This webinar reviews the evolving global regulatory landscape for chlorinated paraffins in metalworking fluids, addressing environmental concerns, recent biodegradability findings, and proposed exemptions for continued use.

**Presenter: Andrew Jaques**

**Pricing: members \$39, nonmembers \$59**

### [Life Cycle Assessment Short Course Presented by Carbon Minds and STLE](#)

This three-part course introduces the fundamentals of life cycle assessment and product carbon footprint, equipping attendees from academia, industry, and national labs with practical tools and insights to navigate sustainability challenges in tribology and lubrication.

**Presenter: Oskar Vögler**

**Pricing: members \$99, nonmembers \$149**

### [Environmentally Acceptable Lubricant \(EAL\) Programs and Testing Short Course](#)

This course guides participants through key aspects of environmentally acceptable lubricants (EALs), exploring biodegradability, biobased content, performance, emissions, and sustainability to assess their impact and value in modern tribology.

**Presenter: Dr. Matthew Kriech**

**Pricing: members \$79, nonmembers \$99**

### [From Friction to Function: The Vital Role of Lubricant Suppliers in Sustainable Manufacturing](#)

This webinar explores how documented lubricant management practices—such as fluid analysis and condition monitoring—can support manufacturing sustainability goals by reducing emissions, extending fluid life, and improving equipment reliability.

**Presenter: Bridget Dubbert and David Godwin**

**Pricing: members \$39, nonmembers \$59**

### [Base Oils for Environmental Lubricants Short Course](#)

This webinar explores how documented lubricant management practices—such as fluid analysis and condition monitoring—can support manufacturing sustainability goals by reducing emissions, extending fluid life, and improving equipment reliability.

**Pricing: members \$99, nonmembers \$149**

## Tribology Applications

### [Lubrication Challenges within the Wind Industry](#)\*

This course explores the critical role of lubricant selection in wind turbine operation and reliability, covering the various lubricants used across different components (gear oils, greases, and hydraulic oils) and addressing the challenges in proper lubricant evaluation to minimize maintenance costs and equipment downtime in increasingly powerful and demanding wind turbine applications.

**Presenter: Dr. Kuldeep Mistry**

**Pricing: members \$39, nonmembers \$59**

### [Natural Gas Engine Oils](#)\*

Because natural gas burns hotter than diesel or gasoline and produces oil ash as a combustion byproduct, natural gas engines require specialized lubricating oils that can withstand severe heat stress and cannot be classified using the standard automobile oil classification system.

**Presenter: Kevin McDermott**

**Pricing: members \$39, nonmembers \$59**

### [Pneumatics and Air Compressors](#)\*

This presentation covers the major types of compressors (centrifugal, sliding vane, rotary screw, rotary lobed blowers, and reciprocating), exploring the differences between dynamic and positive displacement compressors while emphasizing proper lubrication requirements, oil contamination challenges, and effective filtration techniques for each compressor type.

**Presenter: John Cummins**

**Pricing: members \$39, nonmembers \$59**

### [Automatic Transmission Fluids](#)\*

This presentation discusses how automatic transmission fluids (ATFs) provide critical functions including torque transfer, cooling, hydraulic power, and lubrication in modern powertrains, examining the impact of transmission architecture on ATF performance and the fluid's base oil and additive package components that deliver fuel economy, durability, and seamless shift quality.

**Presenter: Chintan Ved**

**Pricing: members \$39, nonmembers \$59**

## Tribology Applications (*continued*)

### [Component Performance in Engine Oil Formulation](#)★

This presentation covers engine oil formulation from base oils and additives, reviews relevant specifications (ILSAC, API, and dexos) including their engine and bench tests, examines how each test affects additive and base oil requirements, and discusses expected future needs and their impact on engine oil formulation.

**Presenter: Don Smolenski**

**Pricing: members \$39, nonmembers \$59**

### [Rolling Element Bearings - Beyond Basic Life and Load Rating](#)★

While size, life, and load rating are the primary design criteria for rolling element bearings, this discussion explores additional critical parameters including friction, thermal, and electrical characteristics driven by sustainability concerns, noise, and dynamics considerations, and the system-level loads and speeds that affect bearing performance.

**Presenter: Dr. Hannes Grillenberger**

**Pricing: members \$39, nonmembers \$59**



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The Society of Tribologists and Lubrication Engineers (STLE) is the foremost provider of non-commercial technical education to the lubrication field. Our goal is the dissemination of knowledge to further the science of tribology and lubrication engineering. STLE offers several outlets for keeping up with the latest developments impacting the industry:



## STLE Membership

As a member of the leading technical organization for tribology and lubrication professionals, you have access to the resources you need to succeed, as well as leadership opportunities and a community of industry experts to further your career. Learn more about the membership benefits and types (individual, student and corporate) and how you can leverage the full advantages of your STLE membership at [www.stle.org](http://www.stle.org). For more information about STLE member programs and services, email [membership@stle.org](mailto:membership@stle.org).



## TLT Magazine

STLE's official monthly magazine delivers world-class technical content to aid in the technical education and professional development of those in the industry. Access the digital edition at <https://bit.ly/DigitalTLT> or visit the TLT Archives at [www.stle.org/TLTArchives](http://www.stle.org/TLTArchives).



## Professional Development and Certification

In the STLE Learning Management System (LMS), experts in the field provide education on a wide range of topics including sustainability, lubrication fundamentals, tribology applications and more. The LMS also houses our certifications and allows you to take an exam that can help advance your career. Access webinars, short courses and other virtual content through this user-friendly platform at [www.pathlms.com/stle](http://www.pathlms.com/stle).

STLE Tribology &  
Lubrication for



## Conferences

STLE is hosting the 2025 Tribology & Lubrication for E-Mobility Conference, Nov. 19-21, at the Detroit Marriott Troy in Troy, Mich, featuring expert-led presentations from leading companies and organizations with an interest in e-mobility and networking opportunities. Other conferences and virtual events occur annually as well. For the latest information, visit [www.stle.org/eventsoverview](http://www.stle.org/eventsoverview).

To send questions, issues, comments, suggestions  
or feedback to STLE, email [community@stle.org](mailto:community@stle.org).



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Society of Tribologists and Lubrication Engineers

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