



stle Atlanta

Society of Tribologists and Lubrication Engineers

79th Annual Meeting & Exhibition

May 18-22, 2025



Hyatt Regency Atlanta
Atlanta, Georgia (USA)

PROGRAM GUIDE & SCHEDULE

For full program details including abstracts, scan the QR code to download the STLE Mobile App, sponsored by Palmer Holland.



stle.org/annualmeeting
#STLE2025

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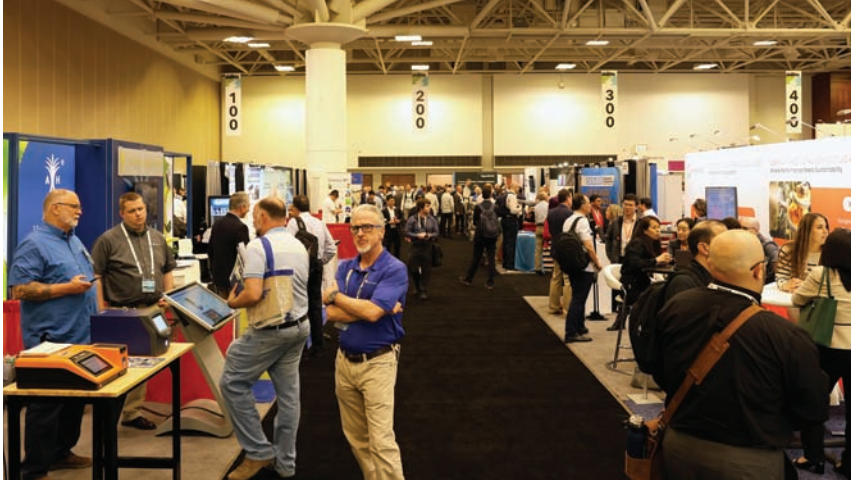
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Society of Tribologists and Lubrication Engineers

The 2025 Annual Meeting & Exhibition, Atlanta, Georgia (USA)



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The 2025 STLE Annual Meeting & Exhibition is sponsored by the Society of Tribologists and Lubrication Engineers, an international organization headquartered at 840 Busse Highway, Park Ridge, Illinois (USA) 60068-2376. Telephone: (847) 825-5536. Fax: (847) 825-1456. Email: information@stle.org. Web: www.stle.org. STLE is a not-for-profit professional society founded in 1944 to advance the science of tribology and best practices in lubrication engineering.

stle Atlanta

Welcome to #STLE2025

Dear Members, Friends, and Guests,

On behalf of the entire STLE community, we are pleased to welcome you to the 79th Annual Meeting & Exhibition! Two key STLE committees, the Annual Meeting Program Committee and the Education Committee, have organized an exciting week of education, training, and professional development here at the Hyatt Regency Atlanta.

The 2025 technical program includes some 500 presentations in a 20- or 40-minute format that allows for shorter and fewer parallel sessions so there is more time to network with and learn from your peers. We also have 11 lubrication-specific education courses to prepare attendees for the future of the tribology and lubricants industry. Additionally, we have new special programming designed to enhance your experience; see page 16 to learn more about this year's events.

Please also allow time in your schedule to visit over 100 companies displaying their products and services in the trade show. The Exhibit Hall in the Hyatt Regency Atlanta Grand Hall is completely sold out, and this is an opportunity to get an early look at the most innovative products and services the lubricants industry has to offer as well as expand your professional network. The student and early career posters are also on display in the Exhibit Hall.

Don't forget to take advantage of the social events, including the Networking Reception on Monday at 5:30 p.m., held for the first time in the Exhibit Hall, and the President's Luncheon/STLE Business Meeting on Tuesday at 12 p.m. You'll connect with the STLE community and have a chance to recognize this year's award recipients and top volunteers who generously donated their time and effort to create new programs and opportunities for the tribology and lubrication communities.

Be sure to stop by the STLE Membership Booth where staff and volunteers will be available to answer all your questions about the event, the STLE Mobile App, or STLE in general. While you're there, be sure to update your STLE profile and interest areas at one of the computers. Doing so will ensure you receive the communications that are most relevant to your interests, and you will receive a scratch-off ticket with a chance to win a prize as a thank you.

We also encourage you to connect on STLE's social media platforms using the official hashtag **#STLE2025** to share your experiences throughout the week.

STLE's 2025 Annual Meeting & Exhibition is a singular opportunity for all of us to connect, learn, and achieve together. Have a great week and enjoy the Annual Meeting!



Jack McKenna
Sea-Land Chemical Company
2024-2025 STLE President



Dr. Azzedine Dadouche
National Research Council Canada
2025 STLE Annual Meeting Program Chair



In addition to this Program Guide, use the **STLE Mobile App** to navigate your meeting experience.

This year, technical session abstracts are available exclusively in the app and in the digital program, available at <https://stle.web.mosaic-apps.com/>. Be sure to download the app, available for Apple and Android, to track your itinerary, view abstracts, and receive important meeting updates.

You can download the STLE Mobile App from your App Store today by scanning the QR code.

Annual Meeting App sponsored by Palmer Holland, Inc.

2025 STLE Annual Meeting & Exhibition

General Information and Policies



Exhibition Hours

The exhibition is in the Hyatt Regency Atlanta – **Grand Hall** (see maps on pages 10 and 11).

Monday, May 19: 12:00 pm – 5:00 pm

Exhibitor Appreciation Hour: 3:00 pm – 4:00 pm

Evonik Raffle: 3:30 pm (Must be present to win at Booth #501)

Tuesday, May 21: 9:30 am – 12:00 pm & 2:00 pm – 5:30 pm

(Closed for President's Luncheon – 12:00 pm – 2:00 pm)

Exhibitor Appreciation Hour: 3:00 pm – 4:00 pm

Evonik Raffle: 3:30 pm (Must be present to win at Booth #501)

Wednesday, May 22: 9:30 am – 12:00 pm

Registration Information

Annual Meeting registration entitles you to attend the technical sessions, exhibition (Monday through Wednesday), Networking Reception on Monday evening, President's Luncheon on Tuesday afternoon*, and most other sanctioned annual meeting events. President's Luncheon guest tickets are \$50 – free to STLE Corporate Members (**two tickets**) and students – and can be purchased at the STLE registration desk in the Grand Hall Foyer of the Hyatt Regency Atlanta. Attendance of business meetings of STLE technical committees is open to anyone who is registered for the meeting. See condensed schedule (page 39) for time and location of individual technical committee meetings.

**(President's Luncheon is included in registration, but you must select a ticket when you register. If you do not have a ticket, please visit the STLE registration desk.)*

Registration Hours (All times are in eastern time zone)

- | | |
|---|---|
| • Saturday, May 17
12:00 pm – 6:00 pm | • Tuesday, May 20
6:30 am – 5:30 pm |
| • Sunday, May 18
6:30 am – 6:00 pm | • Wednesday, May 21
6:30 am – 5:00 pm |
| • Monday, May 19
6:30 am – 6:00 pm | • Thursday, May 22
6:30 am – 1:00 pm |

Annual Meeting & Education Course Policies

- All attendees must register.
- All attendees receive a badge with their registration materials. The badge must be worn at all times and is required for admittance to any technical session, education course, and the trade show.
- Badges may not be exchanged. Attendees who loan their badges to others will have their badges confiscated and their annual meeting privileges rescinded.
- Annual Meeting registration includes admittance to the exhibition, technical sessions, Commercial Marketing Forum, and all social events, including the Monday evening Networking Reception and Tuesday afternoon President's Luncheon.
- Distributing handouts at technical sessions is not permitted. Handouts will be given to education course attendees.
- Disseminating material or conducting business in the exhibit hall is not permitted if you are not an official exhibitor.

Recording Policy

Audio or video recording is not permitted in any of the annual meeting technical sessions or Commercial Marketing Forum presentations. No video of any kind is permitted.

Photo Policy

STLE's official photographer will take photos of select technical sessions, Commercial Marketing Forum presentations, and the exhibition on Monday and Tuesday. These photos will be used in print materials promoting the 2026 STLE Annual Meeting & Exhibition in New Orleans, Louisiana (USA). If you do not wish to have your photograph taken and published, please step out of the photo frame or notify the photographer afterward if your photo has been taken so the image can be deleted.

STLE Mobile App – Download Today!

Full program details and important updates will be posted daily in the STLE Mobile App— available for Apple and Android.

Annual Meeting section sponsored by Palmer Holland, Inc.

Cell Phone Policy

In order to not disturb speakers or fellow attendees, please keep cell phones on vibrate and leave the room to talk. No photography is allowed in the technical sessions.

Dress Code

Business casual dress is appropriate for STLE events at the annual meeting. Technical session and education course speakers often choose attire that is more formal on the day of their presentations.

Harassment Policy

STLE is committed to providing an atmosphere that encourages the free expression and exchange of scientific ideas. As part of that commitment, STLE is dedicated to promoting a safe and welcoming environment for all participants attending the STLE Annual Meeting & Exhibition. All participants are expected to abide by this policy in all venues at the STLE Annual Meeting, including ancillary events and official and unofficial social gatherings. Harassment of any kind is strictly prohibited, and the Society will not tolerate acts in violation of this policy. Any individual who believes that he or she has been the subject of, or has witnessed, harassment should immediately report the incident to STLE staff. All reports are confidential. A copy of the full policy is available at www.stle.org.

STLE welcomes and encourages participation by all individuals. We strive to cultivate a society built on mentorship, encouragement, tolerance, and mutual respect, thereby engendering a welcoming environment for all. STLE welcomes your ideas and observations. To send questions, issues, comments, suggestions, or feedback to STLE, email community@stle.org.

Future Industry Meeting Dates

STLE Virtual Symposium: Aerospace

July 29-30, 2025

Online

STLE Tribology Frontiers Conference

October 14-16, 2025

Argonne National Laboratory
Lemont, Illinois (USA)

STLE Tribology & Lubrication for E-Mobility Conference

November 19-21, 2025

Detroit Marriott Troy
Troy, Michigan (USA)



80th STLE Annual Meeting & Exhibition

May 17-21, 2026

Hyatt Regency New Orleans
New Orleans, Louisiana (USA)

81st STLE Annual Meeting & Exhibition

May 2-7, 2027


Hyatt Regency Chicago
Chicago, Illinois (USA)



Stay up to date on the latest annual meeting announcements and connect with fellow attendees using the conference hashtag **#STLE2025** on your favorite social media sites.

Connect with STLE:

 LinkedIn | www.linkedin.com

 X (formerly Twitter) | [X.com/STLE_Tribology](https://x.com/STLE_Tribology)

 Facebook | Facebook.com/stle.org

 Instagram | Instagram.com/STLE_Tribology



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Mobile App

Manage your STLE Annual Meeting plans right from your phone.



79th STLE Annual Meeting & Exhibition Hyatt Regency Atlanta | Atlanta, Georgia (USA)

STLE's Annual Meeting offers so much programming that keeping track of what's happening when and where can be a challenge. The STLE Mobile App lets you plan your itinerary and stay on top of fast-breaking meeting updates every minute of the day.

The STLE Mobile App lets you track, schedule and connect during the STLE Annual Meeting with:

- ◆ Nearly 500 technical session abstracts—push a button and it's on your itinerary!
- ◆ Paper presenters—easily find your favorite speakers
- ◆ 11 lubrication-specific courses
- ◆ More than 100 exhibitors at the trade show
- ◆ Special events and networking opportunities
- ◆ Floor plans of the Hyatt Regency Atlanta and exhibition
- ◆ Meeting attendees
- ◆ Meeting sponsors
- ◆ Meeting updates—stay on top of late-breaking news

Download the app—
and don't miss a thing!



Log in using your STLE member ID
and password.

Once in the mobile app, go to the 2025
STLE Annual Meeting & Exhibition.

For additional questions about the app,
please contact Bruce Murgueitio at
bmurgueitio@stle.org.

Sponsored by Palmer Holland.



• connect • learn • achieve

Society of Tribologists and Lubrication Engineers

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2025 STLE Annual Meeting & Exhibition

Program Schedule at a Glance

All Sessions and Events will take place in the Hyatt Regency Atlanta unless otherwise noted.



Sunday, May 18, 2025

Registration

6:30 am – 6:00 pm – **Grand Hall Foyer**

Education Course Speakers Breakfast

7:00 am – 7:45 am – **Centennial II**

Education Courses (8:00 am – 5:00 pm) – *registration required*

- Basic Lubrication 101 – **Hanover Hall A/B**
- Electric Vehicles 101 – **Hanover Hall C/D**
- Metal Removal Fluids – **Hanover Hall E**
- Advanced Lubrication 301 – **Hanover Hall F/G**
- Artificial Intelligence/Machine Learning – **Courtland**
- Bearings – **Dunwoody**

Education Course Breaks – **Hanover Hall Foyer**

Section Leader Training

4:30 pm – 5:45 pm – **Greenbriar**

Student and New Member Networking Reception

(ticketed event) 6:00 pm – 7:30 pm – **Regency V**

Monday, May 19, 2025

Registration

6:30 am – 6:00 pm – **Grand Hall Foyer**

Speakers Breakfast

7:00 am – 7:45 am – **Centennial II**

Technical Sessions (8:00 am – 10:00 am)

- 1A • Artificial Intelligence/Machine Learning I – **Hanover Hall A/B**
- 1B • Commercial Marketing Forum I – **Hanover Hall C**
- 1C • Wear I – **Hanover Hall D**
- 1E • Rolling Element Bearings I – **Hanover Hall F/G**
- 1G • Materials Tribology I – **Regency Ballroom V**
- 1I • Electric Vehicles I – **Regency Ballroom VII**
- 1J • Non-Ferrous Metals I – **The Learning Center**

Networking/Refreshment Break

10:00 am – 10:30 am – **Centennial Foyer**

Opening General Session: Keynote Address

10:30 am – 12:00 pm – **Centennial Ballroom**

- The Unique, Out-of-This-World Needs of Spaceflight Bearings, **John Renaud**, Application Engineer, Timken Aerospace

Lunch (on your own) – 12:00 pm – 1:40 pm

Commercial Exhibits and Student Posters

12:00 pm – 5:00 pm – **Grand Hall**

Technical Sessions (1:40 pm – 5:00 pm)

- 2A • Artificial Intelligence/Machine Learning II – **Hanover Hall A/B**
- 2B • Commercial Marketing Forum II – **Hanover Hall C**
- 2C • Wear II – **Hanover Hall D**
- 2D • Metalworking Fluids I – **Hanover Hall E**
- 2E • Rolling Element Bearings II – **Hanover Hall F/G**
- 2F • Sustainability in Motion I – **Courtland**
- 2G • Materials Tribology II – **Regency Ballroom V**
- 2I • Electric Vehicles II – **Regency Ballroom VII**
- 2J • Non-Ferrous Metals II – **The Learning Center**

Exhibitor Appreciation Hour

3:00 pm – 4:00 pm – **Grand Hall**

Networking Reception

5:30 pm – 7:00 pm – **Grand Hall**

Tuesday, May 20, 2025

Registration

6:30 am – 5:30 pm – **Grand Hall**

Speakers Breakfast

7:00 am – 7:45 am – **Centennial II**

Commercial Exhibits and Student Posters

9:30 am – 5:30 pm – **Grand Hall**

Technical Sessions (8:00 am – 12:00 pm)

- 3A • Artificial Intelligence/Machine Learning III – **Hanover Hall A/B**
- 3B • Commercial Marketing Forum III – **Hanover Hall C**
- 3C • Condition Monitoring I – **Hanover Hall D**
- 3D • Metalworking Fluids II – **Hanover Hall E**
- 3E • Rolling Element Bearings III – **Hanover Hall F/G**
- 3F • Sustainability in Motion II – **Courtland**
- 3G • Materials Tribology III: Tribute to Professor Yip Wah Chung – **Regency Ballroom V**
- 3H • Aerospace I – **Regency Ballroom VI**
- 3I • Electric Vehicles III – **Regency Ballroom VII**
- 3J • Rheology I – **The Learning Center**
- 3K • JAST-STLE Early Tribology Symposium I – **Dunwoody**

Networking/Refreshment Break

10:00 am – 10:40 am – **Exhibit Hall/Grand Hall**

President's Awards Luncheon/Business Meeting

12:00 pm – 2:00 pm – **Centennial Ballroom**

Technical Sessions (2:00 pm – 5:00 pm)

- 4A • Artificial Intelligence/Machine Learning IV – **Hanover Hall A/B**
- 4B • Commercial Marketing Forum IV – **Hanover Hall C**
- 4C • Condition Monitoring II – **Hanover Hall D**
- 4D • Metalworking Fluids III – **Hanover Hall E**
- 4E • Rolling Element Bearings IV – **Hanover Hall F/G**
- 4F • Sustainability in Motion III – **Courtland**
- 4G • Materials Tribology IV: Tribute to Professor Yip Wah Chung – **Regency Ballroom V**
- 4H • Aerospace II – **Regency Ballroom VI**
- 4I • Electric Vehicles IV – **Regency Ballroom VII**
- 4J • Rheology II – **The Learning Center**
- 4K • JAST-STLE Early Tribology Symposium II – **Dunwoody**

Exhibitor Appreciation Hour

3:00 pm – 4:00 pm – **Grand Hall**

BONUS PROGRAM: Career Pathways Panel

5:15 pm – 6:00 pm – **Courtland**

Join STLE for a panel discussion that delves into the diverse career paths of professionals who have successfully transitioned between industry and academia (*see page 16 for more information*).

Wednesday, May 21, 2025

STLE Fun Run/Walk (*registration required*) 6:30 am

Participants will meet at the front entrance of the Hyatt.

Registration

6:30 am – 5:00 pm – **Grand Hall Foyer**

Speakers Breakfast

7:00 am – 7:45 am – **Centennial II**

Commercial Exhibits and Student Posters

9:30 am – 12:00 pm – **Grand Hall**

Education Courses (8:00 am – 5:00 pm) – *registration required*

- Basic Lubrication 102 – **Embassy Hall A**
- Sustainability – **Embassy Hall B/C**
- Metalworking Fluids 200 – **Embassy Hall D**
- Advanced Lubrication 302 – **Embassy Hall E/F**

WEDNESDAY, MAY 21 | continued

Technical Sessions (8:00 am – 12:00 pm)

- 5A • Lubrication Fundamentals I – **Hanover Hall A/B**
- 5B • Commercial Marketing Forum V – **Hanover Hall C**
- 5C • Contact Mechanics I – **Hanover Hall D**
- 5D • Tribochemistry I – **Hanover Hall E**
- 5E • Environmentally Friendly Fluids/Synthetics I – **Hanover Hall F/G**
- 5F • Tribotesting I – **Courtland**
- 5G • Materials Tribology V – **Regency Ballroom V**
- 5H • Aerospace III – **Regency Ballroom VI**
- 5I • Electric Vehicles V – **Regency Ballroom VII**
- 5J • Gears I – **The Learning Center**
- 5K • Power Generation I – **Dunwoody**

Networking/Refreshment Break

10:00 am – 10:40 am – **Exhibit Hall/Grand Hall**

Lunch (on your own) – 12:00 pm – 1:40 pm

Technical Sessions (1:40 pm - 5:00 pm)

- 6A • Lubrication Fundamentals II – **Hanover Hall A/B**
- 6B • Commercial Marketing Forum VI – **Hanover Hall C**
- 6C • Fluid Film Bearings/Seals I – **Hanover Hall D**
- 6D • Tribochemistry II – **Hanover Hall E**
- 6E • Environmentally Friendly Fluids/Synthetics II – **Hanover Hall F/G**
- 6F • Tribotesting II – **Courtland**
- 6G • Materials Tribology VI – **Regency Ballroom V**
- 6H • Artificial Intelligence/Machine Learning V – **Regency VI**
- 6I • Engine and Drivetrain VI: Engine Oil, HEV, and Water-Based – **Regency Ballroom VII**
- 6J • Gears II – **The Learning Center**
- 6K • Power Generation II – **Dunwoody**

Networking/Refreshment Break

3:00 pm – 4:40 pm – **Foyer**

BONUS PROGRAM:

Discussion Roundtables, an Ideation Event

5:15 pm – 6:15 pm – **Centennial Ballroom**

This scientific brainstorming and networking event, open to all attendees, seeks to foster open discussions among experts from diverse disciplines on a range of topics of interest (see page 17 for more information).



Thursday, May 22, 2025

Registration

6:30 am – 1:00 pm – **Grand Hall Foyer**

Speakers Breakfast

7:00 am – 7:45 am – **Centennial II**

Education Course (8:00 am – 5:00 pm) – *registration required*

- Electric Vehicles 202 – **Regency Ballroom VII**

Technical Sessions (8:00 am – 12:00 pm)

- 7A • Lubrication Fundamentals III – **Hanover Hall A/B**
- 7B • Environmentally Friendly Fluids/Synthetics III – **Hanover Hall C**
- 7C • Fluid Film Bearings/Seals II – **Hanover Hall D**
- 7D • Biotribology I – **Hanover Hall E**
- 7E • Surface Engineering I – **Hanover Hall F/G**
- 7F • Tribotesting III – **Courtland**
- 7G • Materials Tribology VII – **Regency Ballroom V**
- 7H • Nanotribology I – **Regency Ballroom VI**
- 7I • Grease I – **The Learning Center**
- 7J • Engine Oil, EV, and Drivetrain: Frontier – **Dunwoody**

Networking/Refreshment Break

10:00 am – 10:40 am – **Foyer**

Lunch (on your own) – 12:00 pm – 1:40 pm

Technical Sessions (1:40 pm – 5:00 pm)

- 8A • Lubrication Fundamentals IV – **Hanover Hall A/B**
- 8C • Fluid Film Bearings/Seals III – **Hanover Hall D**
- 8D • Tribology of Biomaterials I – **Hanover Hall E**
- 8G • Materials Tribology VIII – **Regency V**
- 8H • Nanotribology II – **Regency Ballroom VI**
- 8I • Grease II – **The Learning Center**

Networking/Refreshment Break

3:00 pm – 3:20 pm – **Foyer**

Preliminary as of April 21



Meet with us at Booth #501!

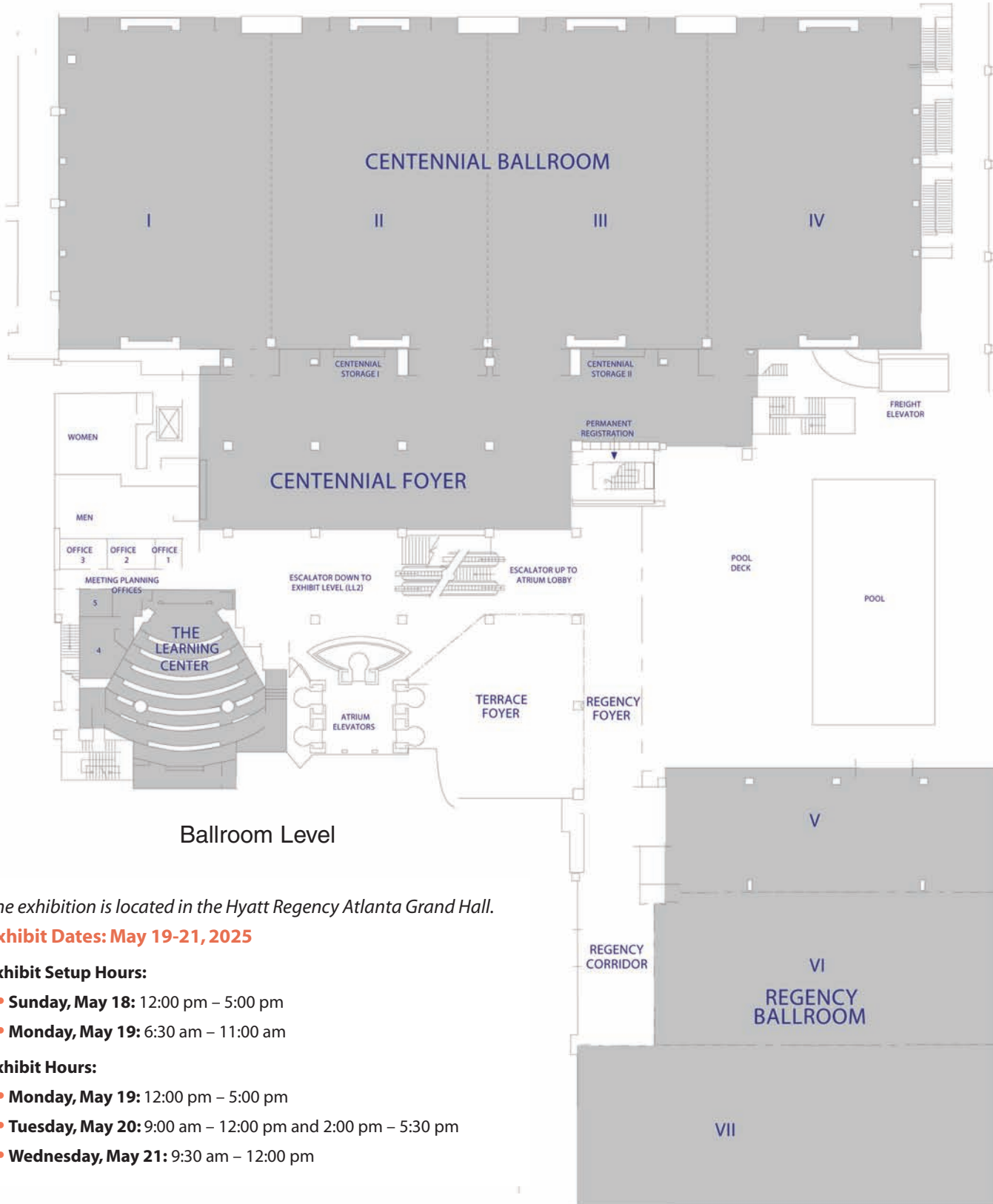
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Passenger cars, commercial vehicles, wind turbines, construction and manufacturing equipment ... no matter the landscape of your machinery, rely on Evonik to provide you with solutions to unleash the full potential of fuel efficiency, energy savings, durability and CO₂ reduction driven by sustainable lubricant design.

The Oil Additives specialists at Evonik—Creating possibilities for a sustainable world
www.evonik.com/oil-additives





Ballroom Level

The exhibition is located in the Hyatt Regency Atlanta Grand Hall.

Exhibit Dates: May 19-21, 2025

Exhibit Setup Hours:

- **Sunday, May 18:** 12:00 pm – 5:00 pm
- **Monday, May 19:** 6:30 am – 11:00 am

Exhibit Hours:

- **Monday, May 19:** 12:00 pm – 5:00 pm
- **Tuesday, May 20:** 9:00 am – 12:00 pm and 2:00 pm – 5:30 pm
- **Wednesday, May 21:** 9:30 am – 12:00 pm

Conference Level

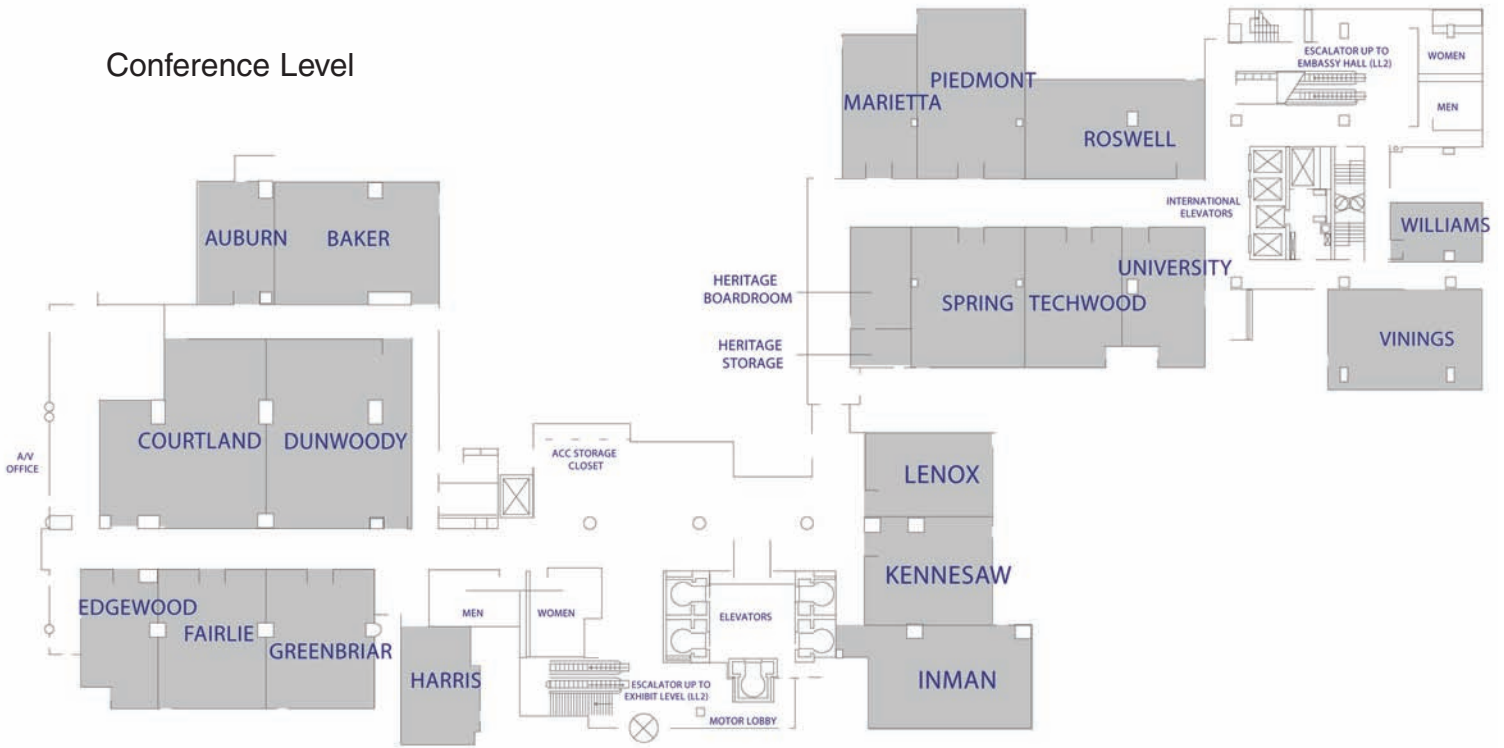
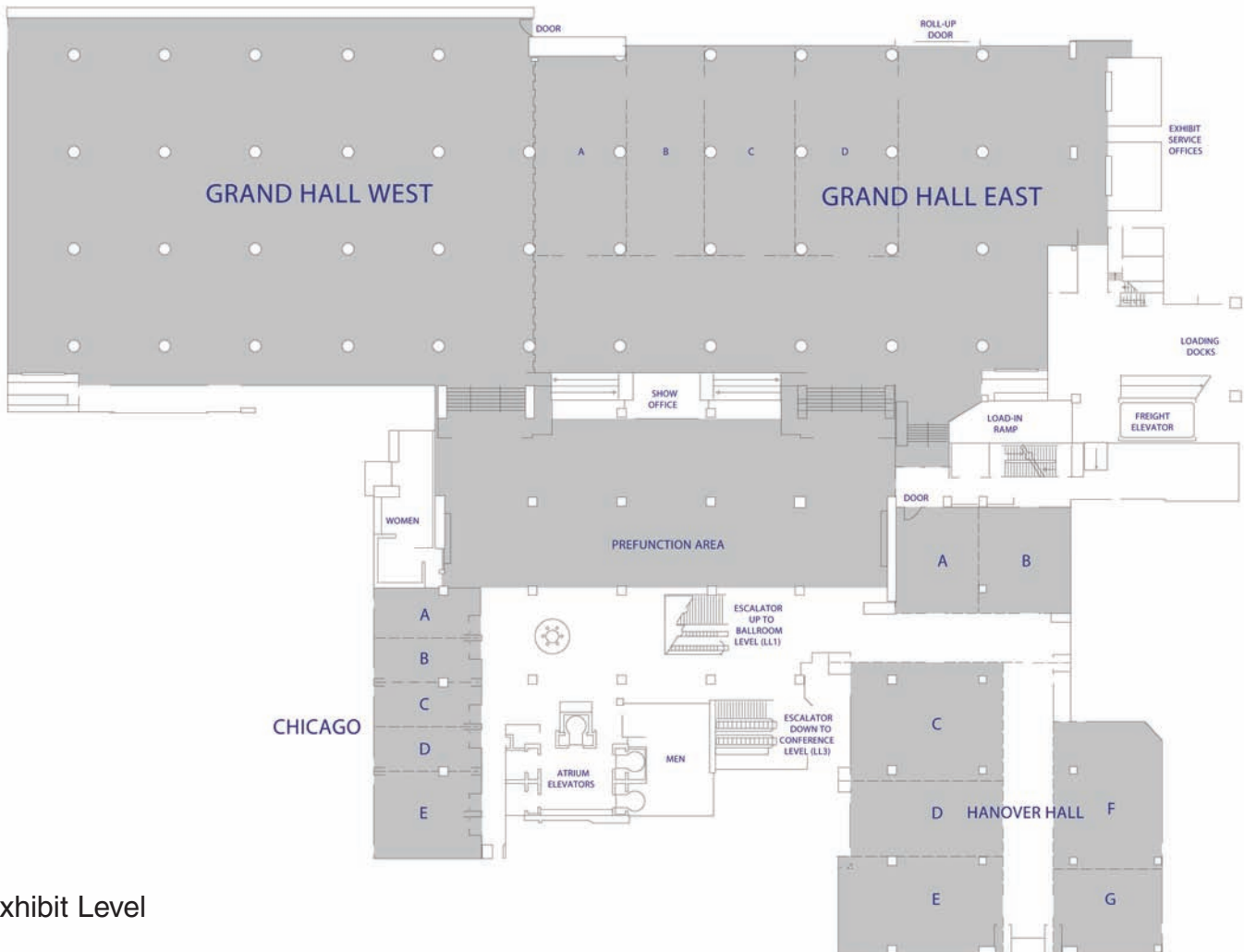


Exhibit Level



2025 STLE Annual Meeting & Exhibition

Annual Meeting Exhibitors

These exhibitors are displaying the lubricant industry's latest products, services, and technologies.

Company Name	Booth No.	Company Name	Booth #	Company Name	Booth #
5th Order Industry	712	Elé Corp.....	512	Optimol Instruments Prüftechnik GmbH	304
Acme-Hardesty Co.	613/615	Emery Oleochemicals	707/709	Palmer Holland	506/508
Adeka USA Corp.....	714	Ergon, Inc.	300/302	PCS Instruments.....	713/715
Advanced Chemical Concepts.....	204	Evonik Oil Additives USA, Inc.	SS 501	PerkinElmer	413
Agilent Technologies	815	ExxonMobil Product Solutions...	SS 601	Phoenix Tribology	1001
Allied Power	914	Falex Corp.....	515	Pilot Chemical Co.	410
ALS Global.....	312	FedChem	415	ProFluid, LLC	216
American Petroleum Institute	313	Functional Products, Inc.....	909	Radom Corp.	516
American Refining Group.....	207	Gehring-Montgomery	200/202	Ravago Chemicals North America	SS 701
AnalytiChem	412	Green Oleo S.p.A.....	315	Rierden Chemical & Trading	314
Anhui Trust Chem Co., Ltd.	510	Huntsman	808	Rtec-Instruments.....	514
Applied Rigaku Technologies	201	IMCD US	210/212	Sanyo Chemical America.....	316
Ayalytical Instruments	900/902	Indo Amines Americas.....	1014	Savant Labs.....	812
Barentz North America.....	907	Indorama Ventures - Indovinya	1012	Sea-Land Chemical Co.....	607
Baron USA	1015	Industrial Química Lasem S.A.U. (IQL)	308/310	SI Group	209
BASF Corp.....	807/809	INEOS Oligomers	307/309	Soltex, Inc.	810
Biosynthetic Technologies	813	Infineum International	610	SONGWON.....	306
Bruker	414	Italmatch Chemicals	906/908	Tannas Co. & King Refrigeration	814
BYK.....	912	Ivanhoe Industries	913	The Lubrizol Corp.	706/708
Cannon Instrument Co.	203	Kao Chemicals Europe.....	609	TotalEnergies	214
Carbon Minds.....	1004	KH Neochem Americas, Inc.	1003	TriboDENS.....	616
Cargill.....	406	King Industries	301	Tulstar Products, Inc.....	904
Carpenter Co.	1007/1009	Koehler Instrument Co.	409	United Protective Technologies.....	910
ChemGroup.....	215	Kuraray America, Inc.	1008	United Soybean Board	416
Colonial Chemical	1000/1002	LANXESS Corp.....	801/803	Univar Solutions.....	612/614
Compass Instruments	513	Microtrac Inc.....	1013	Vanderbilt Chemicals, LLC	606
Connect Chemicals	1010	MidContinental Chemical Co., Inc. ..	507	VBASE Oil Co.	608
DataPhysics Instruments	208	Münzing.....	901	Wincom Inc.....	806
DC Scientific	915	Napoleon Engineering Services.....	903	Zschimmer & Schwarz.....	401
Dover Chemical Corp.....	407	Nelson Brothers	206		
Ducom.....	509	Norac Additives	1006		
ECH Scientific.....	710	Nouryon.....	408		

Preliminary as of April 21



Exhibit Hall Trade Show Floor Plan

Exhibition Hours:

The exhibition is in the Hyatt Regency Atlanta – **Grand Hall**

Monday, May 19: 12:00 pm – 5:00 pm

Exhibitor Appreciation Hour: 3:00 pm – 4:00 pm

Evonik Raffle: 3:30 pm (Must be present to win at Booth #501)

Tuesday, May 21: 9:30 am – 12:00 pm & 2:00 pm – 5:30 pm (Closed for President's Luncheon – 12:00 pm – 2:00 pm)

Exhibitor Appreciation Hour: 3:00 pm – 4:00 pm

Evonik Raffle: 3:30 pm (Must be present to win at Booth #501)

Wednesday, May 22: 9:30 am – 12:00 pm

ProFluid 216	TotalEnergies Lubricants 214	IMCD US 20'	210	DeltaPhysics 208	Neison Brothers 206	Advanced Chemical Concepts 204	200	Baron USA 1015	Microtrac 1013	Carpenter 20'	1007	KH Nechem Americas 1003	Phoenix Tribology 1001
Sanyo Chemical 316	Rienten & Trading 314	ALS Global 312	INDUSTRIAL QUIMICA LAT S.A.U. 20'	318	308	Songwon Americas 306	Optimal Inst Protechnik GmbH 304	DC Scientific 915	INDO AMERICAS 1014	Connect Chemicals 1010	1010	Colonial Chemical Inc 20'	1000
Chem Group, LLC 213	Prochem USA, Inc 213	313	313	309	207	SI Group 209	303	Ivanhoe Ind Inc 913	Indorama Ventures- Indovinya 1012	Kuraray USA Inc 1008	1008	Napoleon Engineering Services 903	MUNZING 901
Green Oleo Spa 315	American Petroleum Institute 313	313	313	409	407	American Refining Americas 207	201	Agilent Tech 815	Resynthetic Tech 813	Functional Products, Inc. 909	907	Carbon Minds 1004	1004
United Soybean Board 416	Braker 414	412	410	408	406	Cargill US 406	307	Allied Power 914	BYK USA 912	Barentz North Additives 907	1006	Carbon Minds 1004	1004
Radom Corp 516	RTEC- Instruments, Inc 514	Eis Corporation 512	Anhut Chem Co 510	509	506	401	301	Agilent Tech 815	United Proactive Tech 910	Functional Products, Inc. 909	1008	Colonial Chemical Inc 20'	1003
FedChen/ Federal Process 415	PerkinElmer 413	413	407	507	507	201	201	Agilent Tech 813	United Proactive Tech 910	Functional Products, Inc. 909	1008	Napoleon Engineering Services 903	MUNZING 901
Falex Corp 515	Compass Instruments 513	513	507	507	506	401	301	Agilent Tech 813	United Proactive Tech 910	Functional Products, Inc. 909	1008	Napoleon Engineering Services 903	MUNZING 901
Univar Solutions 20'	513	612	610	608	606	501	501	Tannas/ King 814	Soyvant Labs 812	Functional Products, Inc. 909	1008	Colonial Chemical Inc 20'	1003
Infineum Int'l 610	610	610	610	608	606	507	501	Tannas/ King 814	Soyvant Labs 812	Functional Products, Inc. 909	1008	Napoleon Engineering Services 903	MUNZING 901
VBASE Oil Company 608	Vanderbilt Chemicals 606	606	606	608	606	507	501	Tannas/ King 814	Soyvant Labs 812	Functional Products, Inc. 909	1008	Colonial Chemical Inc 20'	1003
VBASE Oil Company 608	Vanderbilt Chemicals 606	606	606	608	606	507	501	Tannas/ King 814	Soyvant Labs 812	Functional Products, Inc. 909	1008	Napoleon Engineering Services 903	MUNZING 901
VBASE Oil Company 608	Vanderbilt Chemicals 606	606	606	608	606	507	501	Tannas/ King 814	Soyvant Labs 812	Functional Products, Inc. 909	1008	Colonial Chemical Inc 20'	1003

ENTRANCE

2025 STLE Annual Meeting & Exhibition

Annual Meeting Sponsors

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Dow
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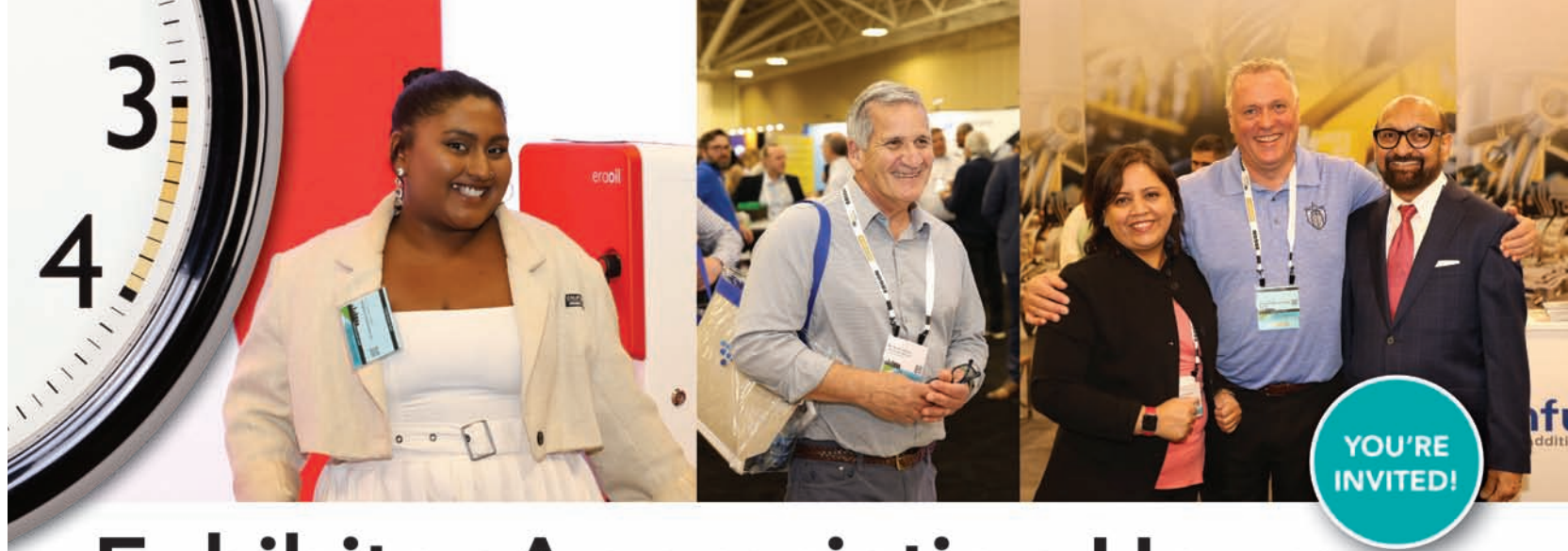
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Preliminary as of April 21





Exhibitor Appreciation Hours

Monday and Tuesday, May 19 & 20, 3-4 pm both days

Hyatt Regency Atlanta | Atlanta, Georgia (USA)

Refreshments will be served!

The trade show is a major component of STLE's Annual Meeting. In 2025 STLE is making it even easier for you to fit a visit to the exhibition into your personal itinerary with two hours of dedicated exhibit time—no need to worry about missing a Commercial Marketing Forum presentation, education course or technical session!

Come view the newest products and services from the lubricant industry's leading companies. More than 100 companies from every corner of the industry will be represented and looking to do business with you.

Exhibitor Appreciation Hour Sponsor Evonik Oil Additives USA, Inc. is holding raffles on Monday and Tuesday, May 19 and 20, at 3:30 pm in the exhibit hall. You must be present at **Booth 501** at time of drawing to win. Evonik Oil Additives USA, Inc. is raffling two Garmin GPS Running Smartwatches, Forerunner 165®.

2025 Exhibit Schedule

Monday: Noon-5 pm (Exhibitor Appreciation Hour 3-4 pm)

Tuesday: 9:30 am-Noon & 2-5:30 pm (closed for President's Luncheon - Noon-2 pm. Exhibitor Appreciation Hour 3-4 pm)

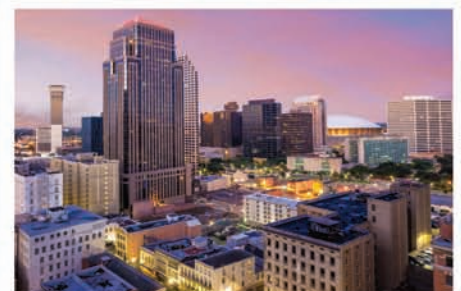
Wednesday: 9:30 am-Noon

79th STLE Annual Meeting & Exhibition



Atlanta

May 19 & 20, 2025



Exhibitors: To reserve a spot at the 2026 STLE exhibition at the Hyatt Regency New Orleans in New Orleans, La., contact Tracy Nicholas VanEe at (847) 430-6767, emeraldcomminc@yahoo.com.



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2025 STLE Annual Meeting & Exhibition

Annual Meeting Special Events

All annual meeting events are in the Hyatt Regency Atlanta, unless noted.

Art of Tribology

All week | Grand Hall Foyer

This initiative highlights the unexpected beauty within the field of lubrication, friction, and wear, celebrating the artistic side of scientific discovery. We invited the STLE community to submit their most captivating tribology-related images for display at the conference. Images can be varied – from high quality SEM images to unusual lab instrumentation setups to 3D simulation models and more.

Student & New Member Networking Reception

Sunday, May 18

6:00 pm – 7:30 pm | Regency V

Ticketed Event: New STLE members and students are welcomed to an evening of trivia and networking to build friendships and expand professional connections. This event is for new members and students only.

Opening General Session

Monday, May 19

10:30 am – 12:00 pm | Centennial Ballroom

STLE honors its esteemed journal publishing award recipients during the Monday General Session program. You'll also hear a keynote presentation from John Renaud titled *The Unique, Out-of-This-World Needs of Spaceflight Bearings* (see page 17).

Networking Reception

Monday, May 19

5:30 pm – 7:00 pm | Grand Hall

The annual meeting's central networking event, held for the first time in the Exhibit Hall, is a way for you to reconnect with old friends while making new ones. Since people come to STLE's Annual Meeting & Exhibition from around the world, this truly is an international event. Relax, socialize, and add to your list of professional contacts through this outstanding networking event.

Exhibitor Appreciation Hours

Back by popular demand, two hours of dedicated exhibit time will occur at this year's show.

Monday, May 19 & Tuesday, May 20

3:00 pm – 4:00 pm | Grand Hall

Refreshments will be served in the trade show. Technical sessions, education courses, Commercial Marketing Forum presentations, and all other annual meeting activities will cease at this time. Come support the meeting's exhibitors – and find solutions to your most pressing technical issues.

President's Luncheon & 79th STLE Annual Meeting Business Meeting

Tuesday, May 20

12:00 pm – 2:00 pm | Centennial Ballroom



J. McKenna



K. Delaney

Ticketed Event: The annual meeting's major business function draws virtually all attendees for a two-hour event honoring STLE's incoming and outgoing presidents, award winners and top volunteers. Come honor 2024-2025 President

Jack McKenna with Sea-Land Chemical Company and 2025-2026 President Kevin Delaney with Vanderbilt Chemicals, LLC. A ticket for the President's Luncheon is included in your meeting registration and free to STLE Corporate Member representatives (two tickets) and students. Additional tickets may be purchased for \$50 per person at the STLE registration desk in the Grand Hall Foyer.

Career Pathways Panel

Tuesday, May 20

5:15 pm – 6:00 pm | Courtland



Moderator: Zoé Knippa
Vanderbilt Chemicals, LLC

Open to all registrants, this insightful panel discussion explores the diverse career paths of professionals who have successfully transitioned in their careers. Invited panelists will share their personal experiences, challenges, and achievements as they navigated these significant career shifts. This event aims to provide attendees with a deeper understanding of the motivations behind these transitions, the skills and mindset required, and the impact these changes have had on their professional and personal lives. Whether you're contemplating a move in your career or simply curious about the dynamic career landscapes, this panel will offer valuable perspectives and practical advice to guide you on your own career path.



Panelist: Dr. Christopher DellaCorte
The University of Akron (USA)



Panelist: Dr. Oliver Koch
University of Kaiserslautern-Landau (RPTU) (Germany)



Panelist: Nick Garabedian
datin (Germany)



Fun Run/Walk
Wednesday, May 21
6:30 am – 7:30 am | Hyatt
 Regency Atlanta Front Entrance

Ticketed Event: Make a difference while getting some exercise! This 1-1/2 -mile run/walk is a great way to connect with fellow attendees and help raise money for the STLE NextGen Fund, which supports programs and initiatives to develop the next generation of tribologists and lubrication engineers. The entry fee is \$25, and participants will receive a commemorative t-shirt. Sign up at the onsite registration desk.

Discussion Roundtables – An Ideation Event
Wednesday, May 21

5:15 pm – 6:15 pm | Centennial Ballroom
 This scientific brainstorming and networking event, open to all attendees, seeks to foster open discussions among experts from diverse disciplines on a range of topics of interest. The event's

format facilitates a creative atmosphere for complex tribology and lubrication topics, enabling participants to generate technical impulses through brainstorming. The proposed topics are aligned with current interests, and each table will be hosted by industry experts who will guide the interactive discussion. One of the event's unique features is the opportunity for participants to share their experiences, creating a platform for connection and learning.

Table topics for discussion include:

- New Challenges for Tribological Contacts – Additional Electrical Loads, S. Graf
- Role in Assisting Lubricant Companies with Improving Their Manufacturing Efficiency, STLE
- Role of Sustainability in Tribology Innovation, STLE
- The State of Tribology Education in Academia and Industry, R. Jackson
- Global Energy Transition and Its Impact on Fuel and Lubrication, M. Holloway



Keynote Address: Monday, May 19 | 10:30 am – 12:00 pm | Centennial Ballroom

The Unique, Out-of-This-World Needs of Spaceflight Bearings

There are new and exciting opportunities for tribology professionals to help develop solutions to support the changing spaceflight market. Spaceflight ball bearings have special needs, and their applications present some unique challenges. Products are designed to both survive harsh conditions of launch and operate for years without maintenance while providing the precise rotational accuracy needed for critical missions on orbit. A changing landscape of the spaceflight industry is currently underfoot. This includes a shifting mentality regarding allowable risk, and with it an opportunity to innovate new solutions in the space. Proliferated space programs are being designed to be rapidly replaced on faster cadences to keep up with modern technology. This presentation includes insights and lessons learned from firsthand experiences working in the aerospace bearing industry.



John Renaud is an application engineer for Timken Aerospace focusing on high-precision spaceflight ball bearing applications. Located in Keene, New Hampshire, he has 18 years of experience supporting high precision ball bearings products from initial design all the way through to the final manufacturing processes. This includes support of bearings used in critical satellite payload and attitude control systems.

Currently he serves as chairperson of the ASTM Committee F34 on Rolling Element Bearings. This committee focuses on standardization of common critical processes and requirements for the aerospace rolling element bearing market.

Tribology has been an important factor in his career, starting with co-op work assignments at Spectro Inc. (now Spectro Scientific) working with oil analysis equipment for condition monitoring while completing his bachelor of science in mechanical engineering from University of Massachusetts-Lowell and throughout his entire career at The Timken Co.

2025 STLE Annual Meeting & Exhibition

Annual Meeting Education Courses

All education courses are in the Hyatt Regency Atlanta.

The **2025 STLE Annual Meeting & Exhibition** features 11 industry-specific education courses offered on Sunday, May 18, Wednesday, May 21, and Thursday, May 22. The schedule is designed to give attendees more flexibility when planning their conference attendance. All courses will start at 8:00 am and end by 5:00 pm. Please note only digital books will be available for each course.

Onsite registration is available. If you have not signed up for a course but would like to, please go to the STLE Registration Desk in the Grand Hall Foyer of the Hyatt Regency Atlanta to check on availability. Individuals will not be admitted to a course without registration.



Sunday, May 18

Artificial Intelligence-Machine Learning | Courtland

Course Chair: Prathima Nalam, University at Buffalo; Wilfred (Eddy) Tysoe, FSTLE, University of Wisconsin-Milwaukee

Advanced Lubrication 301 | Hanover Hall F/G

Course Chair: Farrukh Qureshi, The Lubrizol Corporation

Basic Lubrication 101 | Hanover Hall A/B

Course Chair: Jake Finn, HF Sinclair

Electric Vehicles 101 | Hanover Hall C/D

Course Chair: Carlos Sanchez, Southwest Research Institute

Metalworking Fluids 115: Metal Removing Fluids | Hanover Hall E

Course Chair: Kevin Saunderson, CMFS, BP Lubricants USA, Inc.

Rolling Element Bearings and Their Lubrication (in partnership with ABMA) | Dunwoody

Course Chair: Stephanie Smialek, American Bearing Manufacturers Association (ABMA)

Wednesday, May 21

Advanced Lubrication 302 | Embassy Hall E/F

Course Chair: Michael Blumenfeld, ExxonMobil Technology & Engineering Company

Basic Lubrication 102 | Embassy Hall A

Course Chair: Jake Finn, HF Sinclair

Metalworking Fluids 200 | Embassy Hall D

Course Chair: Neil Canter, CMFS, FSTLE, Chemical Solutions

Sustainability: Biolubricants and Biofuels | Embassy Hall B/C

Course Chair: Brajendra K. Sharma, USDA/ARS/ERRC

Thursday, May 22

Electric Vehicles 202 | Regency Ballroom VII

Course Chair: Carlos Sanchez, Southwest Research Institute



STLE Mobile App

View full descriptions for the Education Courses in the STLE Mobile App and in the digital program, available at <https://stle.web.mosaic-apps.com/>

Be sure to download the app, available for Apple and Android, to track your itinerary, view abstracts, and receive important meeting updates.

You can download the STLE Mobile App from your App Store today by scanning the QR code.

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Award Recipients

STLE would like to congratulate the following individuals who will be recognized for their outstanding technical achievements in the field of tribology and lubrication during the 2025 STLE Annual Meeting & Exhibition.

Publishing awards are given in recognition of outstanding achievement in the field of tribology and lubrication. All publishing awards are for papers printed in **Tribology Transactions**, STLE's peer-reviewed journal.

Edmond E. Bisson Award

The Bisson Award was named in honor of Edmond E. Bisson, a former STLE editor-in-chief who was instrumental in establishing the society's reputation as a technical publisher. Established in 1991, the award is given to STLE members or non-members for the best written contribution published by the society in the year preceding the Annual Meeting. The contribution must deal with tribology, lubrication engineering or allied disciplines.

- **Simon Graf**, University of Kaiserslautern-Landau (RPTU) (Germany)
- **Michel Werner**, University of Kaiserslautern-Landau (RPTU) (Germany)
- **Oliver Koch**, University of Kaiserslautern-Landau (RPTU) (Germany)
- **Stefan Götz**, University of Kaiserslautern-Landau (RPTU) (Germany)
- **Bernd Sauer**, University of Kaiserslautern-Landau (RPTU) (Germany)

"Breakdown voltages in thrust bearings: Behavior and Measurement"

Walter D. Hodson Award

The Hodson Award was established in 1950 and is given to the lead author of the best paper written by an STLE member 35 years of age or younger and published by the society in the year preceding the Annual Meeting. The purpose of the award is to stimulate the interest of young engineers in the science of tribology and lubrication and the activities of STLE.

- **Ujjawal Arya**, Purdue University (USA)
- **Farshid Sadeghi**, FSTLE, Purdue University (USA)

- **Saeed Aamer**, Purdue University (USA)
- **Andreas Meinel**, Schaeffler Technologies AG & Co. KG (Germany)
- **Hannes Grillenberger**, Schaeffler Technologies AG & Co. KG (Germany)

"In Situ Visualization and Analysis of Oil Starvation in Ball Bearing Cages"

Wilbur Deutsch Memorial Award

The Deutsch Award is named for a former STLE president and recognizes the most outstanding technical paper written on the practical aspects of lubrication published by the society in the year preceding the Annual Meeting.

- **Martin Rank**, University of Kaiserslautern-Landau (RPTU) (Germany)
- **Manuel Oehler**, University of Kaiserslautern-Landau (RPTU) (Germany)
- **Oliver Koch**, University of Kaiserslautern-Landau (RPTU) (Germany)
- **Kirsten Bobzin**, RWTH Aachen University (Germany)
- **Christian Kalscheuer**, RWTH Aachen University (Germany)
- **Max P. Möbius**, RWTH Aachen University (Germany)

"Investigation of the Influence of Triboactive CrAlMoN Coating on the Joint Wear of Grease-Lubricated Roller Chains"

Captain Alfred E. Hunt Award

Named for ALCOA's first president, this award is given annually to the STLE member or members authoring the best technical paper dealing with the field of lubrication or an allied field.

- **Lorenzo Maccioni**, Free University of Bozen-Bolzano (Italy)

- **Lukas RÜth**, University of Kaiserslautern-Landau (RPTU) (Germany)
- **Oliver Koch**, University of Kaiserslautern-Landau (RPTU) (Germany)
- **Franco Concli**, Free University of Bozen-Bolzano (Italy)

"Load-Independent Power Losses of Fully Flooded Lubricated Tapered Roller Bearings: Numerical and Experimental Investigation of the Effect of Operating Temperature and Housing Wall Distances"

Al Sonntag Award

The Sonntag Award was established in 1983 and is given to an STLE member or members authoring the best technical paper on solid lubricants published by the society in the year preceding the Annual Meeting.

- **Jialin Wang**, China University of Petroleum (East China), University of Leeds (United Kingdom)
- **Bin Han**, China University of Petroleum (East China)
- **Zubin Chen**, China University of Petroleum (East China)
- **Chun Wang**, University of Leeds (United Kingdom)
- **Yongsheng Li**, Shandong Tianrui Heavy Industry Co., Ltd. (P.R. China)
- **Anne Neville**, University of Leeds (United Kingdom)
- **Ardian Morina**, University of Leeds (United Kingdom)

"Investigation on the Tribological Properties of FeS, Cu₂S, MoS₂, and WS₂ Sulfide Films Under Water Lubrication"

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2025 Industry Service Awards Recipients

STLE International Award



Dr. Wilfred (Eddy) Tysoe, FSTLE, University of Wisconsin-Milwaukee (USA)

The International Award, which was established in 1948, is STLE's highest technical honor and bestows lifetime honorary membership on the recipient, who need not have been a member of STLE. It is given in recognition of the recipient's outstanding contributions in tribology, lubrication engineering, or allied fields.

P.M. Ku Meritorious Award



Karen Harrington, FUCHS Lubricants Co. (USA)

The P.M. Ku Award was established in 1978 and is given to the STLE member who most typifies the dedicated spirit of the late P.M. Ku, who worked tirelessly to promote and advance the mission of STLE. The award has been established to recognize outstanding and selfless achievement on behalf of STLE. To qualify for the honor, the recipient must have been a member of the society for at least 15 consecutive years and performed extensive active, dedicated service.

Vic Joll Award



Dr. Lorne Brock, Enrol Inc. (Canada)

The Vic Joll Award recognizes outstanding and selfless contributions by a member of an STLE local section. It is given to a section member who has worked tirelessly and continuously for the benefit of the section, devoting numerous hours in the performance of many tasks necessary to promote and advance the mission of the section and of STLE. The award is named in honor of the late Vic Joll, 1978-79 STLE president who championed local sections.

Outstanding STLE Local Section Awards

- STLE Philadelphia Section
- STLE Houston Section

Raymond L. Thibault Excellence in Education Award



John Burke, FSTLE, Quaker Houghton (USA)

The Raymond L. Thibault Excellence in Education Award was established in 2020 and is given to an STLE member who has demonstrated dedication to passionate and influential work as an educator in practical aspects of tribology and lubrication engineering which benefits the STLE community.

2025 STLE Fellow



Dr. Maureen Hunter, FSTLE, King Industries, Inc. (USA)

STLE Fellows are persons of outstanding personal achievement in the field of tribology or lubrication engineering who have 20 years of active practice in the science and/or engineering professions and have been an STLE member for 10 years. Individuals are nominated by the Fellows Committee and approved by the STLE board of directors.

Student Scholarships

Presidential Awards Program

STLE grants three academic awards through its Presidential Awards Program: The Elmer E. Klaus Fellowship (graduate students), The E. Richard Booser Scholarship (undergraduate students), and The Jeanie S. Scholarship (female undergraduate or graduate students). These awards are administered by the STLE Presidential Council and are meant to encourage students to pursue an advanced degree or a career in tribology or lubrication engineering by subsidizing a research project related to the field.



The Elmer E. Klaus Fellowship: Brian Delaney, Northwestern University (USA)



The E. Richard Booser Scholarship: Esmond Lau, Rochester Institute of Technology (USA)



The Jeanie S. McCoy Scholarship: Farida Ahmed Koly, University of Delaware (USA)

Early Career Awards

This award recognizes the technical achievements of STLE student members, postdoctoral researchers, junior-level academic faculty, and industry professionals and provides financial support for attendance to the STLE Annual Meeting.



Student Daniel Miliate, University of California – Merced (USA)




Postdoctoral Researcher Dr. Deepak Kumar, University of Buffalo (USA)



Academic Professional Dr. Sougata Roy, Iowa State University (USA)



Industry Professional Dr. Eliane Gendreau, Shell Research Ltd (UK)



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Technical Sessions Time Grids – Monday, May 19, 2025

TIME	SESSION 1A AI and Machine Learning I	SESSION 1B Commercial Marketing Forum I	SESSION 1C Wear I
	Hanover Hall A/B	Hanover Hall C	Hanover Hall D
8:00 am – 8:20 am	A Machine Learning Tool to Correlate Lubricant Properties with Formulations, T. Fang	ExxonMobil: Alkylated Naphthalene – A Booster and a Base Stock, M. Patel	Application of Novel Data-Driven Methods for Wear Characterization in Machine Elements, T. Bender
8:20 am – 8:40 am		Kao Chemicals: Impact of the Additive Selection on the Handprint of Metalworking Applications, S. Wohlfahrt	
8:40 am – 9:00 am	Using Artificial Intelligence to Predict Toxicity and Improve Performance of Lubricants, S. Lucazeau	CPChem: Grow with Us – New Opportunities with Synfluid® PAO, T. Malinski	Accurate Measurement of Particle Velocity Using a Double Disc Anemometer in Erosive Wear Experiments, W. Cashmore
9:00 am – 9:20 am	Application of AI to Property Prediction of Transesterified Oils for Biodiesel and Biolubricant Formulation, G. Díez Valbuena		A Surface Comparison Methodology for Wear Analysis, T. Martin
9:20 am – 9:40 am	Leveraging Machine Learning in the Design of Novel Ionic Liquids, P. Panwar	Colonial Chemical: Ether Carboxylic Acids for Industrial Lubricants, S. Tang	Correlation in Filter Debris Analysis, J. Simons
9:40 am – 10:00 am	Predictive Insight for MoS ₂ Thin Film Synthesis from Machine Learning Algorithms, D. Vogel	Novel Reliable Technologies: Is ZDDP Still the King of Anti-wear Additives?, G. Duckworth	
10:00 am – 10:30 am	Break	Break	Break
	SESSION 2A AI and Machine Learning II	SESSION 2B Commercial Marketing Forum II	SESSION 2C Wear II
	Hanover Hall A/B	Hanover Hall C	Hanover Hall D
1:40 pm – 2:00 pm	Monitoring of Bearings Using Machine Learning-Based Surrogate Models, B. Klinghart	Advancion: A New-to-World Multifunctional Additive for High-performance Metalworking Fluids, M. Chen	
2:00 pm – 2:20 pm		Evonik: Deployment of Efficient Lubricants at Evonik E. JoRuetta	
2:20 pm – 2:40 pm	Use of Machine Learning to Predict End of Life in a Bent-Axis Pump, P. Michael	Functional Products, Inc.: Functional At Your Fingertips, M. Woodfall	Explore the Wear Resistance of FeCoNiMo and CrCoNiMo and the Mutual Effects of Mo and Cr on the Formation of Self-Lubricating Oxides up to 1000 °C, W. Wang
2:40 pm – 3:00 pm	Beyond Oil Sampling: A Data-Driven Approach To Predictive Maintenance, H. Agrawal	Optimol Instruments: Functional Screening Methods for Performance Assessment of Transmission Components, G. Patzer	Sliding Wear Behavior of Superalloys Based on Nickel and Cobalt, R. Krishnamurthy
3:00 pm – 4:00 pm	Exhibitor Appreciation Hour	Exhibitor Appreciation Hour	Exhibitor Appreciation Hour
4:00 pm – 4:20 pm	Transforming Fluid Analysis with AI-Driven Innovations, D. Tingey	VBASE® OIL Company: Secondary Polyol Ester™ Technology – Versatility Across the Lubricants Market to Deliver Commercial Value, S. Eck	Experimental Investigations on the Failure Mechanisms of Synchronous Belts, P. Häderle
4:20 pm – 4:40 pm	Predicting Tribological Behavior of Lubricant Additives Using Machine Learning: A Data-Driven Approach to Lubricant Optimization, W. Wijnanarko	Zschimmer & Schwarz: Introducing EsterTec – The Future of Synthetic Ester Technology, D. Placek	Wear Mechanisms of Several Elastomers for Hydrogen Facility, H. Tanaka
4:40 pm – 5:00 pm	Emergence of Coefficient of Restitution as a Key AI-suggested Parameter in Wear Resistance Optimization of High-Speed Engineering Polymer Composites, T. Ozkan	LANXESS' DMTD Derivatives: More than Yellow Metal Inhibitors!, S. Horstmann	

	SESSION 1E Rolling Element Bearings I		
	Hanover Hall F/G		
	Lubricant Levitation in High-Speed Bearings: A Combined Experimental and Numerical Approach, U. Arya		8:00 am – 8:20 am
			8:20 am – 8:40 am
	CFD Modeling of Bearing Cage Pocket Groove Geometries, S. Aamer		8:40 am – 9:00 am
	Modelling Bearing Thermal Performance Using Computational Fluid Dynamics (CFD), M. Van Zoelen		9:00 am – 9:20 am
	Tribofilms of Lubricants in Rolling Element Bearings, D. Merk		9:20 am – 9:40 am
	Boundary Lubricated Rolling with Heathcote Slip and Spin – The Influence of Tangential Solid Body Elasticity, G. Poll		9:40 am – 10:00 am
Break	Break	Break	10:00 am – 10:30 am
SESSION 2D Metalworking Fluids I	SESSION 2E Rolling Element Bearings II	SESSION 2F Sustainability in Motion I	
Hanover Hall E	Hanover Hall F/G	Courtland	
Sustainable Lubricants: Formulating High-Performance Ester-Based Metalworking Fluids, L. Tekath	Advanced Stress-based Life Model for Hybrid Bearings Considering Surface and Subsurface Fatigue Risks, N. Londhe	Why Tribology and Sustainability Mix?, N. Canter	1:40 pm – 2:00 pm
		Influence of Various Tribological Technologies on Sustainability, V. Bakolas	2:00 pm – 2:20 pm
The Effect of Limited Lubrication by Misting in a Pin & Vee Block Simulation of Cutting and Forming Fluids, D. Drees	A Semi-Analytical Method to Study Fretting Mechanisms in Oscillating Ball Bearings, R. Duquesne		2:20 pm – 2:40 pm
Metal-Working Fluid Performance Metrics for Sustainability, S. McGee		Component-Driven Solutions for Improved Sustainability in Lubricants, B. Casey	2:40 pm – 3:00 pm
Exhibitor Appreciation Hour	Exhibitor Appreciation Hour	Exhibitor Appreciation Hour	3:00 pm – 4:00 pm
Introducing a New Amino Alcohol for Metalworking Fluids, R. Butler	Very High Cycle Fatigue of High Strength Steels Applied to Aeronautic Rolling Bearings, H. Behlal	The Product Carbon Footprint in an International Environment – Challenges, Procedures, and Possible Solutions, M. Zuercher	4:00 pm – 4:20 pm
Development of the World's First Sulfurized Algae Oil-Based Extreme Pressure Agent, H. Matsueda	Lubricant Effects on Rolling Contact Fatigue Life, J. Fernandez	The Transformation of Used Motor Oil into High-Quality Base Oil, S. Guo	4:20 pm – 4:40 pm
		Avoided Emissions Enabled Through Lubricants, A. Glawar	4:40 pm – 5:00 pm

MONDAY >>

Technical Sessions Time Grids – Monday, May 19, 2025

TIME	SESSION 1G Materials Tribology I	SESSION 1I Electric Vehicles I	SESSION 1J Non-Ferrous Metals I
	Regency Ballroom V	Regency Ballroom VII	The Learning Center
8:00 am – 8:40 am	The Worldwide Surface-Topography Challenge – An Update, T. Jacobs	Novel Insights into the Role of Electric Fields on Lubricant Additive Efficiency in Boundary Lubrication, I. Lahouij	Development and Implementation of Soap Free Aluminum Hot Mill Lubricant with Excellent Fines Dispersion, T. Oleksiak
8:40 am – 9:00 am	Topography-Dependent Adhesion of Wear-Resistant Coatings, A. Pradhan	Multifield Lubrication Theory and A Generalized Multifield Reynolds Equation, X. Wang	
9:00 am – 9:20 am	Multi-Scale Surface Interactions: Linking Geometry, Environment, and Adhesion through Surfaces Patterned with Greyscale Lithography, A. Briese	Influence of Small Electric Potentials on the Performance of Rolling-Sliding Contacts in Mixed Lubrication, A. Yousuf	How Surfactants Contribute to Rolling Performance in Emulsions for Aluminum Hot Rolling, A. Viat
9:20 am – 9:40 am	Effect of Carbides on Adhesion Force, N. Kikuchi	Effect of Applied Voltages on Wear Behavior of Rolling Sliding Steel Surface under Lubrication with E-axle Fluids, R. Furukawa	Filtration of Rolling Fluids, C. Thomas
9:40 am – 10:00 am	Effect of Contact Stress on the Growth and Adhesive Transfer of Metal Oxide Tribofilms, P. LaMarcus	Modeling Various Lubricant Influences on Rolling Element Bearing Electrical Discharge Damage, R. Jackson	A Paradigm Shift in Aluminum Cold Rolling Oil Filtration Methods, L. Hendren
10:00 am – 10:30 am	Break	Break	Break
	SESSION 2G Materials Tribology II	SESSION 2I Electric Vehicles II	SESSION 2J Non-Ferrous Metals II
	Regency Ballroom V	Regency Ballroom VII	The Learning Center
1:40 pm – 2:20 pm	Structure, Process & Property Measurements of Pt-Au Alloys via High Throughput Methods, J. Curry	The Potential of Tribological Knowledge in Selecting the Right Oil Formulation for Electrical Drive Systems, M. Baese	Tribological Performance of Aluminum Sheet Forming Lubricants, D. Sanchez Garrido
2:20 pm – 2:40 pm	An Investigation of Lubricating Wear Behaviour on Ag-Mg Alloys, V. Ramaiah Annadurai	Advancing Both Boundary and EHL Lubrication for EV Transmission Fluids with Novel Ester Technology, P. Struelens	Investigation of Tribology Properties of Different Lubricity Additives on Different Metals, Y. Philip Zhao
2:40 pm – 3:00 pm	Scuffing Initiation Experimental Investigations of AISI 52100 Steel and WC-Based Coatings, K. Jacques	Esters for Heavy Duty Electric Vehicles, A. Kurchan	
3:00 pm – 4:00 pm	Exhibitor Appreciation Hour	Exhibitor Appreciation Hour	Exhibitor Appreciation Hour
4:00 pm – 4:20 pm	Wear Performance of Inconel 718 Produced Through Additive Manufacturing Compared to Conventional Methods, M. Makowiec	Current Induced Friction and Pitting on Lithium Lubricated Steels, M. Tajedini	Eco-Design Innovations in Non-Ferrous Rolling Fluids: Reducing Carbon Footprint from Cradle to Grave, G. Burette
4:20 pm – 4:40 pm	Wear Mechanism Transitions in FeCoNi and CrCoNi Medium-entropy Alloys From Room Temperature to 1,000 °C, W. Wang	Enhanced Tribological Performance of Base Oils by Protic Ionic Liquids Under Electrified Conditions, S. Lee	Cold-flow Properties of Estolides: The Old (D97 and D2500) Versus the Mini-(D5773 and D5949) Method, G. Bantchev
4:40 pm – 5:00 pm	Nickel-Based Superalloys Subjected to Laser Peening: Surface Integrity, Microstructural Evolution and High Temperature Tribology, A. Beheshti	Distinct Impact of Different Ionic Liquids on Lubricant's Electrical Conductivity, J. Qu	

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Technical Sessions Time Grids – Tuesday, May 20, 2025

TIME	SESSION 3A AI and Machine Learning III	SESSION 3B Commercial Marketing Forum III	SESSION 3C Condition Monitoring I
	Hanover Hall A/B	Hanover Hall C	Hanover Hall D
8:00 am – 8:20 am	Tribo-Informatics: The Systematic Fusion of AI and Tribology, Z. Zhang	SI Group: Developing an Additive to Address Impending Regulatory Challenges of Substituted Diphenylamine-Based Antioxidants, T. Chipuk	Asset Reliability Through Integration: Setting the Standard for Success, D. Tingey
8:20 am – 8:40 am		Nouryon: Advanced Solutions for Friction Mitigation, A. Filin	
8:40 am – 9:00 am	AI-Driven Rapid Prediction of Elastohydrodynamically Lubricated Contacts, M. Marian	Evonik: Three Step Approach to Improve Fuel Economy in Engine Oils, M. Petit	Filtration and Characterization of Sub-Micron Contaminants in Used Lubricants, M. Cortes Morales
9:00 am – 9:20 am	Symbolic-Regression Based Extended Hertz Theory of Coated Bodies, B. Delaney	Lubrizol Hybrid Grease System – A Lithium Alternative, T. Saari	Monitoring Lubricant Quality by Applying Machine Learning to Acoustic Emission Signals from Rubbing Contacts, T. Reddyhoff
9:20 am – 9:40 am	Multi-Modal Prediction of Friction Evolutions, N. Brown	NYCO: Expanding Synthetic Lubricants through NYCO's High-Performance Specialty Esters, K. Elgert	Ultrasonic Reflection Measured Oil Film Thickness on Slipper Bearings of an Axial Piston Pump, M. Yu
9:40 am – 10:00 am	Structural Semantics and Machine Learning-based Investigation on the Superior Aspects of PTFE as a Tribological Filler in High-Performance Engineering Polymer Composites, T. Ozkan	Biosynthetic Technologies: Estolides – High-Performance Sustainable Base Oils for Lubricant and Metalworking Formulations, M. Kriech	Comparison of Traditional and Remote Inline Continuous Condition Monitoring Methods for Air Compressor Fluids, J. Schultz
10:00 am – 10:40 am	Break	Break	Break
10:40 am – 11:00 am	Shifting from Paper to Digital: Bridging the Gap in Knowledge Digitalization, N. Garabedian	ChainCraft: Upcycling Waste into Fatty Acids: A Sustainable Path to Advanced Synthetic Esters, D. Ersu	Prediction of Physical Properties and Composition of Used Lubricants Using Near-infrared Absorption Spectra, K. Kojima
11:00 am – 11:20 am	Predictive Models in Tribology Using Machine Learning, N. Espallargas	MÜNZING's New FOAM BAN® 439: MOSH/MOAH Free, Organo-Modified Siloxane Antifoam for Non-Aqueous Lubricants, S. Peerzada	Innovative Tools for a Better Prevention of Organic Fluids Oxidation and Varnish Build up, M. Roucan
11:20 am – 11:40 am	Machine-Learning Models for Predicting Friction from Roughness, L. Pastewka	BASF Corporation: Discover BASF's Expanding Line of Industrial Additive Packages Designed to Meet the Highest-Level OEM Requirements, D. Niedzwiecki	Vibration-Based Detection and Classification of Compound Gear and Bearing Faults Using Ensemble Learning, V. Handikherkar
11:40 am – 12:00 pm	A Computer Vision Tool for Automatic Recognition of Bearings Failure Modes, M. Van Zoelen	Coast Southwest: Integrated Technology, Innovation, and Solutions, A. Cimo	Trials of a Railway Wheel Mounted Ultrasonic Sensor for Contact Detection, R. Dwyer-Joyce
	SESSION 4A AI and Machine Learning IV	SESSION 4B Commercial Marketing Forum IV	SESSION 4C Condition Monitoring II
	Hanover Hall A/B	Hanover Hall C	Hanover Hall D
2:00 pm – 2:20 pm	How Industry and Academia Collaborate in the Digitalization of Materials in Germany / EU, P. Gumbsch	Lubrizol: A Versatile Rust Preventive for Long-Term Outdoor Corrosion Protection, A. Hadler	Reliability Starts Here: Best Practices for Fluid Analysis, J. Gaschler
2:20 pm – 2:40 pm		Cargill: Priolube™ Bio-based Synthetic Ester Thickeners, S. Davis	
2:40 pm – 3:00 pm	A Contemporary Review and Data-Driven Evaluation of Archard-Type Wear Laws, B. Delaney	Lubrizol: Zinc Free Hydraulic – Enabling the Future of Hydraulic Fluids, J. Cornett	Achieving ISO 17025 Accreditation for Inservice Grease Analysis Programs, J. Wright
3:00 pm – 4:00 pm	Exhibitor Appreciation Hour	Exhibitor Appreciation Hour	Exhibitor Appreciation Hour
4:00 pm – 4:20 pm	Estimation of Friction Force from In-Situ and Top-View SEM Images ... Using Deep Learning, H. Kinoshita	BASF Corporation: Emgard® Transportation Lubricants – Lubricant Solutions for a Sustainable Future, M. Barry	Condition Monitoring Method for Oxidation of Biodegradable Hydraulic Oils, T. Honda
4:20 pm – 4:40 pm			Electrical Impedance Spectroscopy for Lubricant Condition Monitoring, T. Reddyhoff
4:40 pm – 5:00 pm		ExxonMobil: Advanced PAO Technology Enabling High-performance PV Fluid Solutions, R. McDonald	Identification of Lubricant Types Using Near-infrared Spectroscopy and Machine Learning, K. Kojima

SESSION 3D Metalworking Fluids II	SESSION 3E Rolling Element Bearings III	SESSION 3F Sustainability in Motion II	
Hanover Hall E	Hanover Hall F/G	Courtland	
<p>A Seminal Tribological Study of Chlorinated Paraffins and Alternative Chemistries for Extreme Pressure and Anti-Wear, R. Stepan</p>	<p>Micropitting Damage in Lubricated Contacts, A. Kadiric</p>	<p>Sustainability Regulations: A New Operational Framework, V. Bakolas</p>	<p>8:00 am – 8:20 am</p> <p>8:20 am – 8:40 am</p>
	<p>Identifying Facts from Failure in Forensic Bearing Investigations, T. Russell</p>	<p>From Compliance to Competitive Edge: EU Regulations, PCF, and the Future of Lubricants Worldwide, I. Herrmann</p>	<p>8:40 am – 9:00 am</p>
<p>The Challenge to Determine Anti-Wear and Extreme Pressure Properties of Dry Lubricants in Industrial Lubrication Applications, D. Drees</p>	<p>Metastudy of Deep Groove Ball Bearing and Cylindrical Roller Bearing Fatigue Testing Relative to Various Fatigue Life Models, J. Brady</p>		<p>9:00 am – 9:20 am</p>
<p>Boundary Lubricant Additive Multimetal Boundary Lubrication Optimization Using Twist Compression Tests (TCT) and Combination DOE, T. McClure</p>	<p>Influence of Initial Kinematic Conditions on Bearings Subject to Shock Loads, S. Hart</p>	<p>From Insight to Action: Strategic Use of Product Carbon Footprints in the Lubricants Industry, O. Vögler</p>	<p>9:20 am – 9:40 am</p>
<p>Advancing Sustainability in MWFs with High Renewable Content Amino Alcohol Derivatives, R. Butler</p>	<p>Enhancing the Fatigue Life of Rolling Element Bearings by Using Layered Cylindrical Hollow Rollers, M. Solanki</p>		<p>9:40 am – 10:00 am</p>
<p>Break</p>	<p>Break</p>	<p>Break</p>	<p>10:00 am – 10:40 am</p>
<p>Development and Performance Testing of Dicarboxylic Acid Replacements, M. Lutz</p>	<p>Electromechanical Dimension Value Against Fluting, S. Graf</p>	<p>Panel Discussion: Oiling the Wheels of Change: Sustainability, Policy & Profit in the Lubricant Industry</p>	<p>10:40 am – 11:00 am</p>
<p>EP Additives with Enhanced Sustainability for Water-miscible Metalworking Fluids, S. Rea</p>	<p>Rolling Contact Tribological Study of ATSP Vitrimers Coated Surfaces Under Varying Slide, Load, and Abrasive Conditions, J. Sorrell</p>	<p>Panelists: Elisa Swanson-Parbäck, Moderator, Perstorp AB, Malmö, Sweden; Inga Herrmann, Ergon, Hamburg, Hamburg, Germany; Vasileios Bakolas, Schaeffler Technologies AG und Co KG, Herzogenaurach, Germany; Oskar Vögler, Carbon Minds GmbH, Cologne, Germany</p>	<p>11:00 am – 11:20 am</p>
<p>Innovative Mineral Oil Free Water Based Synthetic Cutting Fluid With Improved Performance, S. Datta</p>	<p>Improved Tribological Performance of Ball Bearings with 3D Printed Cage Designs, R. Dahiwal</p>		<p>11:20 am – 11:40 am</p>
	<p>Influence of Steel on RCF Life of Bearings Under Current Flow, M. Ratoi</p>		<p>11:40 am – 12:00 pm</p>
SESSION 4D Metalworking Fluids III	SESSION 4E Rolling Element Bearings IV	SESSION 4F Sustainability in Motion III	
Hanover Hall E	Hanover Hall F/G	Courtland	
<p>Approach to Studying Additive Interplay for Chlorinated Paraffin Replacement in Cutting Oils, A. Yoder</p>	<p>Measurement of Bearing Frictional Torque with a New High-Speed Test Rig, J. Shore</p>	<p>Carbon Emission Reductions Utilizing Renewable Energy for Chemical Production of Estolide Base Oils, M. Kriech</p>	<p>2:00 pm – 2:20 pm</p> <p>2:20 pm – 2:40 pm</p>
<p>Study of Tribology Properties and MWF Chemistries in Titanium Drilling, Y. Philip Zhao</p>	<p>Effect of Nanoparticles on the Rolling Bearing Life in oil lubrication, Y. Sunagawa</p>	<p>Integrating in Plant Production to Achieve ROI and Lowering Carbon Footprint, D. Sackett</p>	<p>2:40 pm – 3:00 pm</p>
<p>Exhibitor Appreciation Hour</p>	<p>Exhibitor Appreciation Hour</p>	<p>Exhibitor Appreciation Hour</p>	<p>3:00 pm – 4:00 pm</p>
			<p>4:00 pm – 4:20 pm</p>
			<p>4:20 pm – 4:40 pm</p>
			<p>4:40 pm – 5:00 pm</p>
<p>TUESDAY >></p>			

Technical Sessions Time Grids – Tuesday, May 20, 2025

TIME	SESSION 3G Materials Tribology III	SESSION 3H Aerospace I	SESSION 3I Electric Vehicles III
	Regency Ballroom V	Regency Ballroom VI	Regency Ballroom VII
8:00 am – 8:40 am	Toward Sustainable and Hydrogen Compatible Sealing Materials, G. Theiler	Thin Film Coatings for Aerospace Applications, P. Schmidt	All-In-One e-Fluid Technology to Cool Inverter, e-Motor and Provide EV Gear Lubrication, M. Gahagan
8:40 am – 9:00 am	Impact of Temperature on the Tribological Behavior of DLC Coatings in Hydrogen-Containing Atmosphere, D. Zeradjanin	Investigation of MoS ₂ -Coated NITINOL60 In Low-Temperature Dry Environments, A. DeLong	Dedicated e-Fluids for Improving Energy Efficiency, H. Thaker
9:00 am – 9:20 am	Hydrogen Embrittlement on Microstructural, Tribological, and Mechanical Behavior of Refractory Alloys, C. Fidd	Novel Application Method of Burnished MoS ₂ Coatings for Springs in Solar Arrays Release Mechanisms and Testing Campaign, D. Kostal	Creating EV Fluids for Extending Driving Range, J. Carter
9:20 am – 9:40 am	Tribo-Film Formation at Polymer/Metal Sliding Interface in Hydrogen – Effects of Gas Pressure and Temperature, Y. Sawae	Low-Temperature Mechanism of MoS ₂ Dry Film Lubricants, A. Faiyad	Efficiency Measurements of Fluids for E Axle Application, T. Murr
9:40 am – 10:00 am	Friction and Wear of High-Temperature Hydrogen-Aged DLC, S. Lazarte	Effect of Substrate and Environment on Solid Lubricant Performance, A. Clough	
10:00 am – 10:40 am	Break	Break	Break
10:40 am – 11:00 am	Promising Prospect of MBene as a Solid Lubricant Showcasing Superlubricity, S. Varun Sunkara	Development of a High-Vacuum Pin-on-Disk Test Instrument for Aerospace Applications, J. Bosch Giner	Development of the Dedicated Hybrid Technology Fluid (DHTF), K. Liu
11:00 am – 11:20 am	Water-Induced Entropy Reduction and its Impact on Friction and Hardness of Alumina Borate Solid Lubricant, S. Kim	Friction and Wear Life of Aerospace Dry Film Lubricants in Point and Line Contacts, S. Leventini	High Speed Aeration Test Development and Findings for e-Fluids, M. Ishikawa
11:20 am – 11:40 am	Enhancing the Efficiency of Biomass Preprocessing of Shredders by Utilizing Wear-Resistant Tool Materials, T. Grejtak	Impact of Substrate Adhesion on MoS ₂ Lubrication, W. Mak	Copper Corrosion Inhibition in e-Transmission Fluids – A Mechanistic Insight, L. Vo
11:40 am – 12:00 pm	On the Friction and Wear Aspects of Fabric Pilling, K. Budinski	Wear Liner Composites for Aerospace Wear and Friction Applications, H. Lee	Low Aeration/Traction Lubricant Solutions for High-Speed Electric Drivetrain, P. Ma
	SESSION 4G Materials Tribology IV	SESSION 4H Aerospace II	SESSION 4I Electric Vehicles IV
	Regency Ballroom V	Regency Ballroom VI	Regency Ballroom VII
2:00 pm – 2:20 pm	Tribochemical Activation of Diels-Alder Cycloaddition Reactions, A. Martini	Development of L-PBF Fabricated Bi-Metallic IN718 and L605 Superalloys for Mitigating High-Temperature Fretting Wear in Aerospace Components, S. CH	Estimating Power Losses in Electric Vehicle Drive Units: A Combined 1D Analytical and 3D CFD Approach, A. Motin
2:20 pm – 2:40 pm	Sliding At the Nexus of Surface Science and Tribology, S. Kim		
2:40 pm – 3:00 pm	The Promise of Carbon-based Materials in Friction and Wear Control, A. Erdemir	Indentation Deformation Behavior of Cold-Sprayed Nanocrystalline High-Entropy Alloys, P. Egberts	Enhancing Efficiency in Electric Drive Units (EDUs) through Lubricant Optimization, M. Hauschild
3:00 pm – 4:00 pm	Exhibitor Appreciation Hour	Exhibitor Appreciation Hour	Exhibitor Appreciation Hour
4:00 pm – 4:20 pm	Stress-Dependent Activation Volumes and Viscosity: From Shear Thinning to Glass Formation, W. Tysoe	Additive Manufacturing of Bearings for Aerospace Applications – Integration of Cooling Channels, A. Rottmann	Reconstructing the Internal Shape and Interfaces in a Lithium-Ion Battery Using Ultrasound, R. Dwyer-Joyce
4:20 pm – 4:40 pm	Wear of Diamond, H. Liang	Exploring Tribological Behavior of Aluminum Alloy for Space Application Fabricated via Multimodal Metal Additive Manufacturing Processes, S. Roy	Low Conductivity Electric Vehicles Coolants for Battery Thermal Management System, S. Datta
4:40 pm – 5:00 pm	Material Tribology and Tribochemistry for Steels, Z. Al Hassan	Tribological Performance of a Ni Based 3D Metal Printed Aeronautical Alloy, D. Drees	

SESSION 3J Rheology I	SESSION 3K Early Tribology Symposium I	
The Learning Center	Dunwoody	
Rheology Can Help Tribology, L. Rougeau		8:00 am – 8:40 am
Rheological Test Methods for Driveline and EV Fluids, C. Sanchez	The Effect of Graphite Domain Direction on the Friction Coefficient of Ta-CNx Coating Measured by Polarized Raman and SERS Analysis, T. Tokoroyama	8:40 am – 9:00 am
Extracting Temporary Shear Thinning Curve of Lubricant from MTM Traction Test Data, P. Liu	Accelerating the Discovery of Tribological Materials using High-Throughput Workflows, T. Babuska	9:00 am – 9:20 am
Automated Measurement of Mid-Shear Viscosity in Full Shear Curve Mapping Using the Tapered Bearing Simulator (TBS), L. Vo	Nanorheology and Nanostructure of Lubricious Soft-Boundary Films, S. Itoh	9:20 am – 9:40 am
Tribological and Rheological Insights into the Lubrication Potential of Eco-Friendly Thixotropic Silica Gels, A. Kumar	From Haptics to Lubricant Additives: The Fundamental Questions That Drive Innovation in Tribology, S. Chatterjee	9:40 am – 10:00 am
Break	Break	Break
Low Temperature Mechanical Properties of Lubricating Greases Using Rheology and Comparison to Current Industrial Techniques, J. Bonta	Rubber Friction Control Focusing on Local Stick-Slip Induced by Stiffness Inhomogeneity, S. Maegawa	10:00 am – 10:40 am
Rheology as a Tool for In-Service Grease Analysis and Compatibility Testing, R. Janosky	Cavitation Dynamics at the GEL-Water Interface, A. McGhee	10:40 am – 11:00 am
Establishing Grease Rheology Testing Triggers From Screened In-Service Grease Analysis, D. Kletzing	Achieving Superlubricity Through the Synergistic Effects of DLC Coatings and Organic Acids, M. Murashima	11:00 am – 11:20 am
The Story of Asphalt – From Rheology to Tribology, K. Pondicherry		11:20 am – 11:40 am
		11:40 am – 12:00 pm
SESSION 4J Rheology II	SESSION 4K Early Tribology Symposium II	
The Learning Center	Dunwoody	
Quantitative EHL-Eighteen Years In, S. Bair	Quantification of Strain Distribution in Rubber Bulk During Friction Using Synchrotron, T. Nishi	2:00 pm – 2:20 pm
	Insights into the Fundamental Mechanisms of Ultralow Wear PTFE Composites, K. Van Meter	2:20 pm – 2:40 pm
Evaluating Slippage Characteristics in Nanogaps by Lubricant Flow Measurement Using Fluorescent Particle Tracking, H. Ozeki	Laser Micro Texturing for Enhancing the Friction Between Metal Surfaces, Y. Tsukiyama	2:40 pm – 3:00 pm
Exhibitor Appreciation Hour	Exhibitor Appreciation Hour	Exhibitor Appreciation Hour
Characterization and Analysis of Polyol Ester Oil of Operating and Failed Scroll Compressors, H. Liggett	Active Matter and Tribology: The Conundrum of Establishing Mechanical Models to Complex Systems, K. Schulze	3:00 pm – 4:00 pm
Study on the Effects of Antifoam Additives on Film Drainage and Bubble Dynamics in Oil-Based Systems, P. Pogu		4:00 pm – 4:20 pm
Running in Procedures for Grease-lubricated Bearings: Impact on Grease Ageing, G. Calderon Salmeron		4:20 pm – 4:40 pm
		4:40 pm – 5:00 pm

Technical Sessions Time Grids – **Wednesday, May 21, 2025**

TIME	SESSION 5A Lubrication Fundamentals I	SESSION 5B Commercial Marketing Forum V	SESSION 5C Contact Mechanics I
	Hanover Hall A/B	Hanover Hall C	Hanover Hall D
8:00 am – 8:20 am	Unusual Lubricity and Lubrication Mechanism of CO ₂ Under Severe Tribological Conditions, A. Erdemir	LANXESS Hybrid PU-CSC Innovative Grease Technology: A Focus on CV-Joint Grease Development for Electric Vehicles, W. Mackwood	The Prediction of the Coefficient of Restitution Between Impacting Spheres and Finite Thickness Plates Undergoing Elastoplastic Deformations and Wave Propagation, I. Green
8:20 am – 8:40 am		LANXESS Additin®: Flexible Treat Rate Solution for Top-Tier Ash Hydraulic Fluids, K. DiNicola	
8:40 am – 9:00 am	Importance of Contamination Control Within Zinc-Containing Hydraulic Fluids, R. Drewitt	ADEKA Corporation: Pioneering Lubricants for the Next Generation, ADEKA's Organic Molybdenum Compounds and Other Functional Materials, K. Yamamoto	Asperity Pressures and Deformations in Elastic-plastic Rough Surface Contacts, K. Inose
9:00 am – 9:20 am	Reactive Molecular Dynamics Simulations of Antioxidants, S. Ahmed	Afton Chemical: How to Address the Diverse and Intense Industrial Gear Needs with Your IGO Lubricant Portfolio, L. Hulton	An Investigation of Axisymmetric Elliptical Indentation, R. Jackson
9:20 am – 9:40 am	Achieving Superlubricity in Water-based Lubricants Modified with Potent Corrosion Inhibitors, X. Wang	ACC: Soluble Bases and Water-Based Rust Preventative Technologies for the Metalworking Industry, C. Monday	Phase-Field Simulations of Capillary Interactions Between Rough Surfaces, Y. Wang
9:40 am – 10:00 am	Asphaltene Solvency of a Marine Trunk Piston Engine Oil – A Solution, R. Ramaswamy	BYK: Managing Foam, Greases for High-Temperature Applications, & Particle Stability with BYK, M. Boehmer	Numerical Simulation of Fast Contact Interface Dynamics, F. Massi
10:00 am – 10:40 am	Break	Break	Break
10:40 am – 11:00 am	Atomistic Insights into Friction and Wear Mechanisms of PTFE and its Synergy with PEEK, T. Reichenbach	SEQENS: New Extreme Pressure Additives for More Sustainability in the Lubricant Industry, X. Semery	Experimental Setup for Nano-Scale Surface Topography and Contact Mapping, G. Olson
11:00 am – 11:20 am	... Synergistic Workings of Additives Improving Engine Cleanliness Performance of Lubricant Oils, D. Wall	BASF Corporation: Meeting Efficient and Sustainable Immersion Cooling Fluid Demands, T. Gadkari	Predicting Load Variation in an Elliptical Contact Overrolling Surface Cavities, M. Van Zoelen
11:20 am – 11:40 am	On the Effects of Reaction Order When Using the Arrhenius Equation to Estimate Lubricant Life, P. Shiller	Sasol: MARLOX RT's for Use as Emulsifiers in Metalworking Fluids, V. Kapuvari	
11:40 am – 12:00 pm	High-Pressure Viscometry of ISO Viscosity Grade Mineral Oils, D. Casey	Evonik Corporation: Antifoams and Wetting Agents – Revolutionizing Lubricants, A. Rice	
	SESSION 6A Lubrication Fundamentals II	SESSION 6B Commercial Marketing Forum VI	SESSION 6C Fluid Film Bearings-Seals I
	Hanover Hall A/B	Hanover Hall C	Hanover Hall D
1:40 pm – 2:00 pm	Atomic-Scale Modelling of Lubricants at High Pressure: On the Competition of Shear Thinning, Thermal Thinning and Wall Slip, M. Moseler	Novitas Chem Solutions, LLC	Experimental Rotordynamic Response of a Rotor Supported on Simple Rigid Surface Gas Bearings, K. Ryu
2:00 pm – 2:20 pm		Maintonia: Transforming Lubrication Monitoring Through AloT ... Paradigm in Equipment Reliability, A. Agrawal	A Multi-Level Coupling Model for Stiffness and Damping Analysis of Ship Stern Bearings ... , Z. Zhou
2:20 pm – 2:40 pm	Optimizing EHL Performance with Slip Conditions, R. Ajeeb		Analytical Solution for an Infinitely Long Journal Bearing Lubricated by a Power Law Fluid, A. Zapata
2:40 pm – 3:00 pm	Transient Effects in EHL Contacts in High Entrainment Speed Conditions, R. Jones		
3:00 pm – 3:40 pm	Break	Break	Break
3:40 pm – 4:00 pm	Choosing Right Viscosity Modifier Based on PSSI and Shear Rate of Application, J. Scherger		Enhancing Plain Bearing Performance: The Role of Isotropic Superfinishing, B. Klinghart
4:00 pm – 4:20 pm	Demystifying Minimum Film Thickness in Elastohydrodynamic Lubricated Joints, W. Habchi		Solid Particle Wear in Hydrodynamic Thrust Bearings, J. Bouyer
4:20 pm – 4:40 pm	Assessing Engine Oil Formulations to Mitigate Aeration E. Gendreau		
4:40 pm – 5:00 pm	Modeling the Mixed-EHL Performance of the Plunger-bore Interface of a Radial Pump, H. Soewardiman		

SESSION 5D Tribocchemistry I	SESSION 5E Environmentally Friendly Fluids-Synthetics I	SESSION 5F Tribotesting I	
Hanover Hall E	Hanover Hall F/G	Courtland	
How Does Friction Govern Chemistry? – “Catalysis” by Shear?, S. Kim	Sustainability and Circular Economy in Lubrication, M. Holloway	Development of New 4-Ball Load Ramp Test for Tribological Analysis of Lubricating Greases and Comparison to ASTM D2596, J. Bonta	8:00 am – 8:20 am
			8:20 am – 8:40 am
Advancing Gear Oil Insights – Tribofilm and Subsurface Correlation, A. Gupta	Novel Antiwear and Antioxidant Additives with a Safe Toxicological Profile Designed for Lubricant Applications, E. Piras	The New Electrified Tribometry Development for EV Fluid and Lubricants, J. Xiao	8:40 am – 9:00 am
The Effect of Lubricity of Calcium Sulfonate on ZnDTP and MoDTC, Y. Hayashi	Using Polyalkylene Glycols to Meet Today's Sustainability Needs in Industrial Lubrication, L. Huffman	Mission SLIMpossible – New Analysis Tools for Robust RGB Colorimetric Interferometry of Additive and Lubricant Films, A. MacLaren	9:00 am – 9:20 am
Analysis of the Effect of Phosphorus/sulfur Additives' Concentration on Wear Phenomena . . . M. Morita	Making the Most of Neopolyol Esters in Non-Toxic, High Temperature Chain Oils, S. Lucazeau	Effect of Current Changes on Wear Values for Different Formulated Lubricants by Tribo-testing, A. Schneider	9:20 am – 9:40 am
Interfacial Ice-like Layers Formed on the Two Contacting Silica Surfaces Under Water, Y. Cai	Performance Aspects of Novel and Sustainable Secondary Polyol Ester™ Technology, M. Greaves	Effect of Electric Field Application on Micropitting Behavior Using a Rolling/Sliding Friction Tester, S. Sasaki	9:40 am – 10:00 am
Break	Break	Break	10:00 am – 10:40 am
Analysing the Charge Transfer Mechanisms in Multiple Electrode Droplet Triboelectric Nanogenerators, O. Prendergast	Shear Stable Biobased Thickeners as Alternatives to High Viscosity PAOs in Synthetic Gear and Transmission Fluids, K. Duncan	Algorithms to Automate the Characterization of Tribofilm or Wear from Stylus Profilometer Measurements, T. Fang	10:40 am – 11:00 am
Effect of Electric Fields on the Decomposition of Nanoconfined Lubricant Additives, Z. Zhu	Chemical and Biological Upcycling of Plastic Waste into Mixed Ester Lubricant Base Oils, J. Lilly	Modification of Abrasiveness of SLA Additive Manufacturing Produced Components . . . , K. Parker	11:00 am – 11:20 am
. . . Assembly of Organic Fluorine Compounds on Water Using Molecular Dynamics Simulations, H. Washizu	. . . Thermal Stability and Kinetics of Bio-Lubricants Derived from Various Vegetable Oils, M. Sarker	. . . Testing Method for Engine Lubricants Using OEM-Specific Cylinder-Ring Liner Metallurgy . . . , R. Chaudhary	11:20 am – 11:40 am
Influence of Electrical Polarity and Current Density on Tribofilm Formation, G. Cernalevschi	Improving the Friction Modification & Wear Protection of Lubricants with Ester Technology, M. Hof	Development of a Grease Testing Method Using a Three-Ring-on-Roller Configuration . . . , N. Demas	11:40 am – 12:00 pm
SESSION 6D Tribocchemistry II	SESSION 6E Environmentally Friendly Fluids-Synthetics II	SESSION 6F Tribotesting II	
Hanover Hall E	Hanover Hall F/G	Courtland	
Simulation of Film Reorientation in Vertically Aligned Polycrystalline MoS ₂ Films Due to Shear, J. Schall		Assessment of Stick-Slip Behaviour of Hydraulic Oils using a Tribometer, A. Mohammad Khan	1:40 pm – 2:00 pm
			2:00 pm – 2:20 pm
Resistance to Oxidation of MoS ₂ Nanoparticles Under Severe Oxidizing and Stress Conditions . . . , F. Dassenoy	Innovative Sustainable Additives: Renewable Technology for Lubricants, K. Havelka	Grease Tribological Performance in Electrified Conditions Evaluated Using Four-Ball Tests, A. Hartzler	2:20 pm – 2:40 pm
Origin of Superlubricity of Diamond-Like Carbon (DLC), S. Jang	Cutting Fluids from Soybean-based Lubricants and Emulsifiers, D. Marzolf	Effect of Ammonia Degradation on Anti-Scuffing Performance of Marine Engine Oil, J. Morley	2:40 pm – 3:00 pm
Break	Break	Break	3:00 pm – 3:40 pm
Effectiveness of a Succinimide Dispersant on the Dispersion of MoS ₂ Nanoparticles in Base Oil, F. Dassenoy	Hydrolytic Stability of VSP Esters Compared to Standard Diesters and Polyol Esters, A. Johnson	Identifying Extreme Pressure Additive Activation via the Mini Traction Machine, S. Morton	3:40 pm – 4:00 pm
Shear-induced Surface Aromatization as a Super-lubricity Mechanism of Amorphous Carbon, T. Kuwahara	Impact of Seawater Content in Lubricants without and with Eco-friendly Ionic Liquids . . . , W. Wang	High-Throughput Metal Analysis of In-Service Oils and Coolants with a Nitrogen-Based Plasma . . . , M. Plantz	4:00 pm – 4:20 pm
Enhanced Tribological Performance and Durability of Nanocrystalline Coatings . . . , Z. Al Hassan	Volatility Characteristics of VSP Esters Compared to Standard Diesters and Polyol Esters, A. Johnson	Elucidation of Molecular Structure & Frictional Properties at Solid-Liquid Interfaces Using FM-AFM & LFM, K. Sato	4:20 pm – 4:40 pm
Atomic-Scale Mechanisms Behind Macroscopic Superlubricity . . . , T. Reichenbach		. . . Evaluate the Clutch Friction Properties of Two-wheeler Lubricants . . . , B. Singh	4:40 pm – 5:00 pm

WEDNESDAY >>

Technical Sessions Time Grids – Wednesday, May 21, 2025

TIME	SESSION 5G Materials Tribology V	SESSION 5H Aerospace III	SESSION 5I Electric Vehicles V
	Regency Ballroom V	Regency Ballroom VI	Regency Ballroom VII
8:00 am – 8:40 am	From Polymer to Metals Matrices: Enhanced Tribological Behavior Using 2D Nanomaterial-Reinforced Composites, M. Marian	Optimization of Grease Lubrication Tasks for the Chinook H-47 Helicopter through Component Sampling and a Seven Parameter Evaluation Matrix, D. Kletzing	Lubricant Electrical Properties and their Potential Impact on Bearing Discharge, C. McFadden
8:40 am – 9:00 am	Unraveling the Mystery of Water Transport in MoS ₂ : A ToF-SIMS Investigation, N. Molina Vergara	AI-Driven Discovery of Low-Vapor-Pressure Lubricants for Aerospace Applications, D. Miliate	System-level Approach to EV Powertrain Bearing Friction Optimization, J. Brady
9:00 am – 9:20 am	Friction and Wear of Composite MXene/MoS ₂ Coating Under Low Viscosity Fuels Under Reciprocating Sliding, A. Zayaan Macknojia	Tribological Performance of Gelled Oils for Space Mechanisms Lubrication, J. Laporte-Fedry	Bearing Evaluations for High-Speed Electrified Drive Unit Applications, T. Wellmann
9:20 am – 9:40 am	Chromium-Enabled MoS ₂ Coatings for Enhanced Durability and Reduced Friction in Aluminum, S. Ghosh	Damage Prediction in Helicopter Gearboxes, M. Gilges	Optimizing Bearing Life and Power Loss in Electric Vehicle Gearboxes, A. Waye
9:40 am – 10:00 am	Effect of Europium and Gadolinium Alloying Elements on the Tribological Response of Low Hydrogen Content Amorphous Carbon, F. Mangolini	Tribological Performance of a Novel Aeroengine Bearing Steel – ARCTIC15, A. Ruellan	Twin Disc Evaluation of Scuffing Performance of Lubricants as a Precursor to FZG, D. Patro
10:00 am – 10:40 am	Break	Break	Break
10:40 am – 11:00 am	Effects of Temperature, Contact Pressure, and Lubricant Type on a CNT Coating's Superlubricity, S. Jang	Powder Lubrication Operating Regime of Carbon-Graphite Annular Seals, M. Arghir	Surface-Functionalized CNT as a PAG Additive for Improved Thermal Properties, C. Kumara
11:00 am – 11:20 am	Exploring the Impact of Spray Process Parameters on Graphite Coatings: Morphology, Thickness, and Tribological Performance, A. Abe	The Latest Trends in the Development of Hydrodynamic Mechanical Face Seals for Turbopumps for Reusable Rocket Engines in Japan, Y. Tokunaga	New Antifoam Technologies for Non-Aqueous Additive Packages, S. Velez
11:20 am – 11:40 am	The Influence of Resin on the Fretting Resistance of Molybdenum Disulfide, M. Mushrush		
11:40 am – 12:00 pm	Wide-range Controllable Modulation of Slip Length at MoS ₂ -Water Interface via Self-Assembled Monolayers, Y. Han	A Study on Oil Sealing Performance of Surface Textured Mechanical Face Seals in Vacuum, N. Matsuoka	
	SESSION 6G Materials Tribology VI	SESSION 6H AI and Machine Learning V	SESSION 6I Engine and Drive Train VI
	Regency Ballroom V	Regency Ballroom VI	Regency Ballroom VII
1:40 pm – 2:20 pm	Do Oxide Coatings Strengthen Metal Nanoparticles?, T. Jacobs	Clustering of Wear Characteristics from Measured Forces with Machine Learning Models, P. Sieberg	New Dispersant with Improved Oxidative Stability, T. Coffy
2:20 pm – 2:40 pm	In Situ Formation and Durability of Tribocoatings using BaTiO ₃ Nanocrystal Additives, P. Palahang	AI, Data-driven Design of Surface Textured Face Seal, I. Ou	Structure-Performance Correlations of Substituted Diphenylamines as Lubricant Antioxidants, M. Felipe
2:40 pm – 3:00 pm	On the High Temperature Tribology of Ceramics and Composite Systems, S. Gupta	A Data-Driven Approach to Relating as-Built Surface Topography Parameters to Additive Manufacturing Process Parameters, S. Arfin Mahmood	What's in your Cylinder Bore? Surface Texture Control in a Most Demanding Application, M. Malburg
3:00 pm – 3:40 pm	Break	Break	Break
3:40 pm – 4:00 pm	Effects of Powder Reuse on Tribological Properties in Electron Beam Powder Bed Fusion Process of Ti6Al4V, M. Sayem Bin Abdullah	Special Data Session	Evaluation of FEI Performance of Ex-High VI Formulations with MoDTC in HEVs and Large Pickup Trucks, K. Yamamoto
4:00 pm – 4:20 pm	Triboelectrification Mechanisms: A Computational Approach to Advanced Material Engineering, G. Fatti		Influence of Surface Texture on Cylinder Liner/Piston Ring Contact Friction & Wear, L. Speed
4:20 pm – 4:40 pm	Tribological Behavior of Borided Steel Under Inert Gas Atmosphere & Electrical Conditions, M. Uysal Komurlu		Understanding the Mechanisms of Surface Damage with Aqueous Based Lubricants . . . , H. Yao
4:40 pm – 5:00 pm	Material Characterization Using Replicated Low-lubricity Interfaces for Diesel Engine Fuel . . . , C. Matzke		

SESSION 5J Gears I		SESSION 5K Power Generation I		
The Learning Center		Dunwoody		
SB>1 DEFIANT JMR Technology Demonstrator Aircraft Main Rotor Gearbox Technology Insertions and Teardown Results, S. Bouwer		Impact of Fluid Selection on Hydraulic Pump and Motor Efficiency: A Study Using ASTM D7721-22, P. Michael		8:00 am – 8:40 am
Evaluation and Implementation of Low Core Hardness Gears in the SB>1 DEFIANT JMR Technology Demonstrator Aircraft, S. Bouwer		Study of Additive Chemistry in Low Varnish Turbine Oils for High Bearing Temperature Applications and Its Impact on Tribological Properties, M. Prasad Bolisetty		8:40 am – 9:00 am
		Universal Lubricant Additives for Varnish and Deposit Mitigation, J. Kontra		9:00 am – 9:20 am
Experimental Evaluation of Gear Tooth Bulk Temperature via In-situ Gear Tooth . . . , C. Wassel		Integrated Simulation of Hydrodynamic Plain Bearings in Wind Turbines, H. Grillenberger		9:20 am – 9:40 am
		Updates and Developments in the Turbine Generator Lubrication System Maintenance Guide from the Electric Power Research Institute, D. Kletzing		9:40 am – 10:00 am
Break		Break		Break
Development of a New Type of FZG high-Speed Gear Tension Test Rig for Testing and Characterizing High-Performance Lubricants, S. Preintner		Enhancement of Filtration Performance Characteristics of Glass Fiber-Based Filter Media-Pt. 1: Mechanical Modification with Electrospun Nanofibers, J. Duchowski		10:00 am – 10:40 am
Localization of Gear Pitting Damage During Operation, L. Merkle		Enhancement of Filtration Performance Characteristics of Glass Fiber-Based Filter Media-Pt. 2: Chemical Modification with Surface-Active Treatment, J. Duchowski		10:40 am – 11:00 am
Investigation into the Correlation Between Gear Wear and the Presence of Deposits . . . , K. Matsumoto		Reducing Power Losses in Tilting Pad Bearings, M. Blumenfeld		11:00 am – 11:20 am
Repair of Helical Gear Teeth with Notched Substrate by Laser-Directed Energy Deposition, I. Ortiz		Conclusions from Hydraulic Fluid Dynamometer Testing and Correlation with Excavator Performance Demonstrations Data, R. Gomes		11:20 am – 11:40 am
				11:40 am – 12:00 pm
SESSION 6J Gears II		SESSION 6K Power Generation II		
The Learning Center		Dunwoody		
Thermal Modeling of Aero Engine Gear Pair Under Injection Lubrication . . . , B. Karba		A Journey of Varnish Formation and Mitigation – Case Study, E. Hepley		1:40 pm – 2:20 pm
Simulating Gear Micropitting Wear on a 3 Ring on Roller Rig, M. Ingram		Tackling WEC with Copper Filming Lubricant Technology, L. Alieva		2:20 pm – 2:40 pm
Roll Slide Contacts Simulated with Gear-Cam Modification – Prescreening Lubricants for High Speed Roll-Slide Contacts, D. Drees				2:40 pm – 3:00 pm
Break		Break		Break
Effect of Tooth Root Fillet on Tooth Root Stress in Short-Fiber-Reinforced Plastic Gears – and What We Can Learn From Biology, O. Koch		Power Generation Panel Discussion		3:00 pm – 3:40 pm
A Multi-sensor Framework for Gearbox Diagnostics and Prognostics . . . , T. Verwimp				3:40 pm – 4:00 pm
				4:00 pm – 4:20 pm
				4:20 pm – 4:40 pm
				4:40 pm – 5:00 pm

Technical Sessions Time Grids – Thursday, May 22, 2025

TIME	SESSION 7A Lubrication Fundamentals III	SESSION 7B Environmentally Friendly Fluids – Synthetics III	SESSION 7C Fluid Film Bearings – Seals II
	Hanover Hall A/B	Hanover Hall C	Hanover Hall D
8:00 am – 8:20 am	Antiwear Additive Behaviour in Zero and Low Oxygen Atmospheres, H. Spikes	Cool, Clean, and Green: Innovations in Synthetics Driving the Future of Data Centers, S. Basu	Controlling Seal Vibration Using Lubricant Composition, T. Reddyhoff
8:20 am – 8:40 am			
8:40 am – 9:00 am	Friction and Wear Behaviour of Volatile Fuels using a Sealed Tribometer, J. Zhang	Sustainability in Motion, R. Shah	Influence of Wear on the Threshold Speed of Hole Entry Hybrid Conical Journal Bearing Compensated with Capillary Restrictor, V. Phalle
9:00 am – 9:20 am	Surface Asperity-Enhanced Micro Electrical Discharge in Lubricated Contact Interfaces, X. Wang	On Razor's Edge: Balancing Performance and Sustainability for Next-Generation Hydraulic Fluids, L. Maser	Elasto-hydrodynamic Lubrication Analysis of a Porous Misaligned Crankshaft Bearing Operating with Nanolubricants, B. Bou-Said
9:20 am – 9:40 am	Fast and Accurate Models for Tribology-centred Design, D. Dini	Chemical Modification of Regular and High Oleic Soybean Oil, B. Sharma	In-Situ Observation of a Radial Seal Under the Grease Lubrication and Oscillating Operation by Fluorescence Induced Microscopy, T. Horiuchi
9:40 am – 10:00 am	Digital Twins of Lubricated Systems and Their Evolution – Digital Mini Traction Machine, F. Kaliafetis	Hydrolytic and Oxidatively Stable Esters – Fit for the Demands of the Modern World, K. Duncan	Experimental Test rig to Investigate Gaseous Mixed Lubrication Regime, J. Le Rouzic
10:00 am – 10:40 am	Break	Break	Break
10:40 am – 11:00 am	Mechanism of Low Friction of Fullerene-Added Oil Under Boundary/Mixed Lubrication, T. Honda		Elastomer Shaft Seals in Oscillating and Low-Temp. Wind Turbine Blade Pitch Control Applications, M. Marian
11:00 am – 11:20 am	Preventing Premature Wear – The Critical Role of Oil Flushing in Pre-Commissioning, A. Agrawal		Sealing of Water-Based Gear Fluids with Radial Shaft Seals: Opportunities and Challenges, J. Kondratiuk
11:20 am – 11:40 am	Friction Reduction Performance of Nanodiamonds and MXenes in Presence of Organic Friction Modifier, A. Khan Piya		Contact Evaluation of Sealing Surface with Concentrated Polymer Brush, T. Aoki
11:40 am – 12:00 pm	International Cooperation and Standards in Lubrication, M. Holloway		Low Temperature Friction Response of High-Frequency Reciprocating Elastomer-Steel Tribosystems, D. Korn
	SESSION 8A Lubrication Fundamentals IV		SESSION 8C Fluid Film Bearings – Seals III
	Hanover Hall A/B		Hanover Hall D
1:40 pm – 2:20 pm	Traction Modifier Alcohol Additives – Mechanisms and Applications, T. Reddyhoff		Oil Varnish Along with the Morton Effect in Fluid Film Bearings, J. Yu
2:20 pm – 2:40 pm	High-Performance Polymeric Friction Modifiers for Robust Lubrication Across a Wide Temperature, Load and Lifespan Range, P. Struelens		CFD Modeling of a Spiral Groove Seal in an Oil Mist, S. Inezli
2:40 pm – 3:00 pm	... Characteristics of Water-Lubricated Hydrostatic Journal Bearing Using Journal Bearing Test Rig, D. Vaidya		... Analysis of Frictional Forces in Reciprocating Rod-Seals Under Varying Surface Conditions, P. Panwar
3:00 pm – 3:20 pm	Break	Break	Break
3:20 pm – 3:40 pm	Bench Friction Evolution of Lubricant Formulations to Understand Engine Fuel Economy, K. Mistry		Numerical Analysis of Cylindrical Multi-Hole Hydrostatic Journal Bearing, M. Shaikh
3:40 pm – 4:00 pm	The Behaviour of Tribofilms Under Realistic Gear Contact Conditions, M. Ingram		Performance Evaluation of Water-Lubricated Hydrostatic Cylindrical Journal Bearings using CFD, D. Vaidya
4:00 pm – 4:20 pm	Structure-Property of Functionalized Sulfur-Containing Antiwear Additives for Driveline Applications, J. Tanuwidjaja		
4:20 pm – 4:40 pm	Impact of Surface Roughness on the Lubrication Performance of Low-Speed, Heavy-Duty Water-Lubricated Polymer Bearings, Z. Zhou		

SESSION 7D Biotribology I	SESSION 7E Surface Engineering I	SESSION 7F Tribotesting III	
Hanover Hall E	Hanover Hall F/G	Courtland	
Lubricating Response of a Novel Synthetic Mucin Molecule, J. McClimon	Physics-Informed Machine Learning to Improve Manufactured Surfaces, T. Jacobs	Unveiling the Mystery Behind Designed Experiments, M. Holloway	8:00 am – 8:20 am
		Experimental Study on the Influence Ambient Viscosity has on Load-Dependent and Load Independent Power Losses for an Automotive Application, A. Ngo	8:20 am – 8:40 am
Modeling Cartilage Rehydration: A Numerical Approach, A. Kalathil Ashik	Fabrication of 3D Tribofilms from ZDDP and APTES Using Multi-asperities Contact Surfaces, A. Al Sheikh Omar	Modification of Abrasiveness of SLA Additive Manufacturing Produced Components through Metal and Ceramic Additives, M. Brandt	8:40 am – 9:00 am
Synovial Fluid Is Not Unique in Its Ability to Drive Articular Cartilage Superlubricity, E. Lambeth	Frictional Performance of Lubricants Under Different Regimes: Impact of Laser Surface Texturing, M. Syafiq Abd Aziz	Influence of SLA Additive Manufacturing Patterning Techniques on the Wear of Metal Countersurfaces for 3D Printed Ceramics, L. Elkaslasy	9:00 am – 9:20 am
Role of Gold Nanoparticle Capping Ligands in Modulating Gelation and Friction of Polyacrylamide Hydrogels, M. Elinski	Analysis on the Film Forming Characteristics of Water Lubrication Assisted by Small Amount of Secondary Lubricating Oil, X. Zhang	Development of Innovative Low-Friction Suspension Fluids Using Relevant Benchtop Testing Methods, R. Hippman	9:20 am – 9:40 am
Bio-Inspired Gradient Hydrogels, A. Al Kindi	Comparing a Portable Contact Angle Goniometer Vs. a Lab-style Research Goniometer . . . , P. Simutis	Performance of Surface Textures Fabricated with Additive Manufacturing in Boundary Lubrication, T. Martin	9:40 am – 10:00 am
Break	Break	Break	10:00 am – 10:40 am
Establishing In Vitro and Ex Vivo Oral Friction Testing System, H. Fang	. . . Measurements of Functionalized Silica Nanoparticle Coatings for Solar Photovoltaic Applications, R. Fleming	Evaluating Abrasiveness of Biomass Particulate Materials, C. Lorenzo Martin	10:40 am – 11:00 am
From Cooking Eggs to Spreading Cheese – Tribological Testing of Food and Beverages, K. Pondicherry	Innovative Quasi-Liquid Surfaces for Enhanced Friction Reduction in Under Various Loads, Z. Al Hassan	Unraveling the Complex Interactions in Tribotesting: A Critical Analysis of Input and Output Dynamics, F. Zak	11:00 am – 11:20 am
	A Hybrid Additive Manufacturing Approach to Fabricate Austenitic Stainless Steel . . . , U. Kommineni	Thermoviscous EHL Traction Behaviour of Lubricating Oils Using a New Ultra-High-Speed Tribometer, A. MacLaren	11:20 am – 11:40 am
			11:40 am – 12:00 pm
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SESSION 8D Tribology of Biomaterials I			
Hanover Hall E			
Tribology of Charged Hydrogels, R. Espinosa-Marzal			1:40 pm – 2:20 pm
Influence of Adding Cellulose Nanocrystals (CNC) to Hyaluronic Acid (HA) Suspensions on Tribology and Tribochemistry, A. Bose			2:20 pm – 2:40 pm
Improvement of Lubricity & Wear Resistance Due to the Bilayer Structure of a Hydrated Polymer . . . , S. Itoh			2:40 pm – 3:00 pm
Break	Break	Break	3:00 pm – 3:20 pm
Indentation Behavior of Slide-Ring Gels, A. Rhode			3:20 pm – 3:40 pm
Mechanical and Tribological Properties of Cross-Linked Polymer Networks, M. Maurya			3:40 pm – 4:00 pm
Tribology of Physically Entangled Hydrogels, C. Pugsley			4:00 pm – 4:20 pm
Relationship Between Fractography and Sliding Friction on Soft Materials, A. Dunn			4:20 pm – 4:40 pm

THURSDAY >>

Technical Sessions Time Grids – Thursday, May 22, 2025

TIME	SESSION 7G Materials Tribology VII	SESSION 7H Nanotribology I	SESSION 7I Grease I
	Regency V	Regency VI	The Learning Center
8:00 am – 8:40 am	Effects of Thermal Processing on the Wear and Friction Behavior of PTFE-PEKK Blends, K. Van Meter	Mechanocatalytic Formation of Lubricious Films on Pt-Au from Isopropanol and Ethanol Vapor (Invited), F. Mangolini	The Grease Meniscus in the Light of False Brinelling, G. Bayer
8:40 am – 9:00 am	In Situ Neutron Reflectivity for Friction Measurements, K. Shaffer	Why and How Does Structural Superlubricity Persist Under Ambient Conditions?, M. Baykara	The Effect of “Running-In” on Static Friction in Grease Lubricated and Unlubricated Hertzian Contacts, B. Leonard
9:00 am – 9:20 am	Effect of Fibrillation on PTFE Transfer and Wear, S. Saha	Study on the Lubrication Characteristics of Al/GO/ZnO Tripartite Hybrid Nanofluid for Machining of TC4 using Minimum Quantity Lubrication, Y. Dambatta	High Pressure Rheology of Fine Urea Greases, B. Zhang
9:20 am – 9:40 am	Exceptional Adhesion of PTFE Fine Powder for Dry Cathode Applications, A. Yusuf	Anisotropy and Stress-Assisted Thermal Activation Kinetics of Graphene Fracture Revealed by Atomic Force Microscopy, C. Qu	Evaluation of Rail Curve Grease Performance, E. Gallardo-Hernández
9:40 am – 10:00 am	Fit and Friction Force as a Function of Printing Process for FFF 3D Printed Shaft-Hole Pairs, Q. Allen	Synergistic Effects of ZDDP and TiO ₂ Nanoparticles on Wear Protection in Electrified Contact Conditions, A. Nassif	A New Numerical Method for Calculating the Oxidation Induction Time From TGA Measurements for Lubricating Greases, P. Lugt
10:00 am – 10:40 am	Break	Break	Break
10:40 am – 11:00 am	Self-Lubricating Polyimide for EV Wear and Friction Applications, H. Lee	Tribo-Oxidation and Unique Frictional Properties of MXene Materials, P. Egberts	Towards a Basic Understanding of Oil Separation from Lubricating Greases, F. Hogenberk
11:00 am – 11:20 am	Evaluation of Polyimide Materials Synthesized Through Multiple Chemical Pathways, D. Miller	... 2D Materials on Preferential Solvation and Tribological Properties of Linear and Cyclic Organic Solvent Mixtures: An Experimental Approach, P. Nalam	Effect of Load on Temperature-Induced Oxidation and Grease Life in Deep-Groove Ball Bearings, V. Puthumana
11:20 am – 11:40 am	Influence of Water Lubrication on the Friction and Wear Behavior of UHMWPE–Stainless Steel ... , N. Emami	Shear as the Sculptor: Auto-Kirigami from Self-Folding, Self-Propagating Graphene, L. Yuan	Effect of Thermal Aging on the Grease Film Thickness in Ball Bearings, P. Lugt
11:40 am – 12:00 pm	... Hard Coatings ATSP Vitrimers-Coated Surfaces Under Simulated Lunar Dust Conditions, M. Akif Rahman	Tuning Interfacial Friction through Intercalated Surfactants in Graphene Confinement, D. Kumar	On Measuring the Oxidation Induction Time for Grease Lubricated Bearings, P. Lugt
	SESSION 8G Materials Tribology VIII	SESSION 8H Nanotribology II	SESSION 8I Grease II
	Regency V	Regency VI	The Learning Center
1:40 pm – 2:20 pm	Transfer and Wear Asymmetry Within a Tribological Contact, F. Ahmed Koly	Invited Talk	A Comparison of Bearing Manufacturers Recommendations on Lubrication of Bearings, M. Holloway
2:20 pm – 2:40 pm	Aging-Related Coating Failure of MoS ₂ Nanocomposites: Understanding the Role of Dopants ... , T. Babuska	Ultrafast Dynamics of Electronic Friction Energy Dissipation in Defective Semiconductors Monolayer, R. Han	Film Thickness in Grease-lubricated Deep Groove Ball Bearings – a Master Curve, P. Lugt
2:40 pm – 3:00 pm	Investigation of the Friction and Wear Characteristics of Novel NBR/UHMWPE Double-Lined Rubber-Plastic Water-Lubricated Bearings, S. Xing	Controlling Friction Energy Dissipation by Ultrafast Interlayer Electron-Photon Coupling in WS ₂ /Graphene Heterostructures, C. Wang	Design of Plant-Based Bio-Greases with High Temperature Stability and Reliable Lubrication Under Large Contact Stresses, M. Eskandari
3:00 pm – 3:20 pm	Break	Break	Break
3:20 pm – 3:40 pm	... Study on the Mixed Lubrication Performance of Ship Stern Bearings Based on Oil-Water Mixtures, Z. Zhou	Impact of Binary Solvent Mixtures on the Nanotribology of Graphene Interfaces: An MD Approach, J. Harrison	Enhancing Grease Lubricity with Ionic Liquids: Insights from Multinuclear NMR Spectroscopy, S. Glavatskih
3:40 pm – 4:00 pm		Performance Comparison of Nano Graphene-Enhanced Lithium and Complex Lithium Greases, E. Stefan-Henningsen	
4:00 pm – 4:20 pm		Revealing Orientation-Dependent Deformation Mechanisms at Nanoscale Asperities, A. Prasad	
4:20 pm – 4:40 pm		Metal Oxide Nanocrystals for Enhancing the Performance of Gear Oils, R. Wiacek	
4:40 pm – 5:00 pm		Molecular Dynamics Simulations of Blocked Channel Flows: Modelling Boundary Conditions Near Asperity Contacts, N. Dorcy	

SESSION 7J
Engine Oil, EV, and Driveline: Frontier

Dunwoody

In-situ Fluting Measurement in the MTM Electrified Contact, M. Ratoi

Additive-Additive Interaction in Advanced E-Drivetrain Fluids, L. Katta

Engine Oil Development for Hybrid Vehicles, G. Möller

Suspension-ability and Tribological Performance of Functionalized Carbon Nanoparticles in PAO Oil, M. Humaun Kabir

Break

Break



2025 STLE Technical Committee Meetings

STLE Technical Committee meetings are open to all registered attendees to discuss technical or programming topics, as well as present recommendations to committee leaders in a public forum.

Monday, May 19

CATEGORY	SESSION	TIME	ROOM
Wear	2C	4:40 pm	Hanover D
Nonferrous Metals	2J	4:40 pm	The Learning Center

Tuesday, May 20

CATEGORY	SESSION	TIME	ROOM
Metalworking Fluids	4D	4:00 pm	Hanover E
Rolling Element Bearings	4E	4:00 pm	Hanover F
AI and Machine Learning	4A	4:20 pm	Hanover AB
Condition Monitoring	4C	5:00 pm	Hanover D
Grease After Rheology	4J	5:00 pm	The Learning Center

Wednesday, May 21

CATEGORY	SESSION	TIME	ROOM
Contact Mechanics	5C	11:20 am	Hanover D
Fluid Film Bearings/Seals	6C	4:20 pm	Hanover D
Gears	6J	4:20 pm	The Learning Center
Power Generation	6K	4:20 pm	Dunwoody
Environmentally Friendly Fluids	6E	4:40 pm	Hanover F
Tribotesting	6F	4:40 pm	Courtland
Lubrication Fundamentals	6A	5:00 pm	Hanover AB
Nanotribology After Tribochemistry	6D	5:00 pm	Hanover E
Materials Tribology	6G	5:00 pm	Regency V
EV, Engine and Drivetrain	6I	5:00 pm	Regency VII

Thursday, May 22

CATEGORY	SESSION	TIME	ROOM
Biotribology	7D	11:20 am	Hanover E

2025 STLE Annual Meeting & Exhibition

Student and Early Career Posters

Commercial Exhibits and Student Posters are located in the Grand Hall.

Graduate Student Posters

4206558: Wear Resistance of a Thermochemical Diffusion Treatment on AISI 304 Stainless Steel

Andrea Mandujano-Rodríguez, Instituto Politecnico Nacional, Azcapotzalco, Ciudad De Mexico, Mexico; A. Márquez-Herrera, Universidad de Guanajuato, Irapuato, Guanajuato, Mexico; Ezequiel Gallardo-Hernández, Instituto Politécnico Nacional, Mexico City, México

4301953: Adhesion of Diamond Like Carbon Transfer Films to Intermetallic Shape Memory Alloys

Craig Barbour, Florida Agricultural and Mechanical University, Tallahassee, FL; Adam DeLong, Catherine Fidd, Santiago Lazarte, Brandon Krick, Florida State University, Tallahassee, FL; Tomas Babuska, John Curry, Sandia National Laboratories, Albuquerque, NM; Christopher DellaCorte, University of Akron, Akron, OH; William Scott, Samuel Howard, NASA, Huntsville, AL

4302771: Effect of Oil Viscosity and Nanoparticle Additives on Electrically Induced Pitting in Rolling Element Contacts

Sudip Saha, Jack Janik, Robert Jackson, Auburn University, Auburn, AL

4301890: Grease Tribological Performance in Electrified Conditions Evaluated Using Four-Ball Tests

Alex Hartzler, Amani Byron, Ashlie Martini, University of California Merced, Merced, CA; Christina Cheung, Anoop Kumar, Chevron, Richmond, CA

4301490: Design Optimization Of Oil Rings: A Time Dependent Numerical Solver

Alistair McLane, Mark Wilson, Liuquan Yang, University Of Leeds, Leeds, United Kingdom

4299978: Nanoscale Mechanisms of Catalytically-induced Tribofilm Growth on NiCoCr Alloy: An In-situ Atomic Force Microscopy Study

Bunty Tomar, Vikas Paduri, Ritesh Sachan, Pranjali Nautiyal, Oklahoma State University, Stillwater, OK

4301432: In-situ Probing of Lubrication Mechanism in Phosphonium Phosphate Ionic Liquid Under Electric Field

Foyez Ahmad, Pranjali Nautiyal, Oklahoma State University, Stillwater, OK; Jun Qu, Oak Ridge National Laboratory, Oak Ridge, TN

4301609: Study of the Tribology and Physiochemical Properties of Newly-synthesized Bio-lubricants via Trans(esterification), Epoxidation, and Friedel Crafts Acylation

Noor Fatima, Hossein Jahromi, Robert Jackson, Sudip Saha, Sushil Adhikari, Auburn University, Auburn, AL

4301829: High Performance Hydraulic Components Extend Battery Life in Mobile Hydraulic Equipment

Brandon Janes, Pawan Panwar, Paul Michael, Milwaukee School of Engineering, Milwaukee, WI; Jim Kaas, IFP Motion Solution, Cedar Rapids, IA

4301736: Tribofilm Formation and Tribological Performance of Additive-Enhanced Water-Based Drilling Fluids

Kevin Moreno-Ruiz, Ashlie Martini, University of California Merced, Merced, CA; Mario Ramirez, Troy Griff, Chevron Phillips, Woodlands, TX

4301832: Experimental and Modeling Analysis of Frictional Forces in Reciprocating Rod-Seals Under Varying Surface Profile Conditions

Omer Mohamed, Shubham Daler, Pawan Panwar, Paul Michael, Milwaukee School of Engineering, Milwaukee, WI

4283863: Lubricant Levitation in High-Speed Bearings: A Combined Experimental and Numerical Approach

Ujjawal Arya, Farshid Sadeghi, Purdue University, West Lafayette, IN

4201737: Thermal Transport and Tribological Performance of Tungsten Disulfide Vegetable-Based Nanolubricants

Jose Taha, Dyana De Leon-Elizondo, Gerardo Lopez, University of Texas Rio Grande Valley, Edinburg, TX

4191568: Influence of Oil-Water Mixing Conditions on the Friction and Wear Performance of Ship Tail-Bearing Materials

Lun Wang, Qipeng Huang, Zhenjiang Zhou, Xincong Zhou, Shaopeng Xing, Wuhan University of Technology, Wuhan, Hubei, China

4195866: Tailoring Tribo-Mechanical Behavior of Direct Energy Deposited Austenitic Stainless Steels via Interlayer Ultrasonic Impact Treatment

Uday Venkat Kiran Kommineni, Sougata Roy, Iowa State University, Ames, IA

4199735: Molecular Dynamics Simulation Analysis of Self-Assembled Monolayer of Organic Additives

Takehiro Kobayashi, Ryuichi Okamoto, Hitoshi Washizu, University of Hyogo, Kobe-shi, Hyogo-ken, Japan

4201613: Tissue Properties Independently Influence Articular Cartilage Superlubricity

Emily Lambeth, Tanmayee Joshi, Kayla Siciliano, Elise Corbin, David Burris, Christopher Price, University of Delaware, Newark, DE

4302077: Developing and Characterizing a Low-COF Graphite Coating from Recycled Graphite

Zachary Frank, Sujan Ghosh, University of Arkansas – Little Rock, Little Rock, AR

4302067: Lubrication Performance of Chemically Synthesized WDC Using Lubricant Additives

Sota Seki, Graduate School of Tokyo University of Science, Tokyo, Japan; Shinya Sasaki, Kaisei Sato, Leonardo Hayato Foianesi-Takeshige, Akiharu Satake, Tokyo University of Science, Tokyo, Japan; Takuya Kuwahara, Noriyoshi Tanaka, Offie Tanaka, Saitama, Japan

4302053: Effects of Shear/Compression Stresses on Tribofilm Growth Distribution in Tritolyl Phosphate

Kensuke Anegawa, Tokyo University of Science, Katsusika, Tokyo, Japan; Kaisei Sato, Shinya Sasaki, Tokyo University of Science, Tokyo, Japan; Robert Carpick, University of Pennsylvania, Philadelphia, PA

4302127: Experimental Method for In-Situ Real-Time Scuffing Observation in Self-Mated Steel Using Synchrotron XRD

Farida Ahmed Koly, David Burris, Arnab Bhattacharjee, University of Delaware, Newark, DE; Cinta Lorenzo Martin, Oyelayo Ajayi, Argonne National Laboratory, Argonne, IL; Stephen Berkebile, US Army DEVCOM Army Research Laboratory, Aberdeen Proving Ground, MD; Nikhil Murthy, Scott Walck, U.S. Army Research Laboratory, Aberdeen Proving Ground, MD

4302032: Comparative Tribological Study of Ni-Cr Coatings with Ti and Cr Modifications via DC Magnetron Sputtering

Mohammad Ashikul Alam, Sujan Ghosh, University of Arkansas – Little Rock, Little Rock, AR

4301932: Tribology Within Hydrogen Environments

Christian Micko, Adam DeLong, Brandon Krick, Florida State University, Tallahassee, FL; Craig Barbour, Florida Agricultural and Mechanical University, Tallahassee, FL; Nicolas Argibay, Aero-Propulsion, Mechatronics and Energy Lab, Tallahassee, FL

4301911: Abrasive Behavior of Pristine vs. Environmentally Degraded Additively Manufactured and Molded Polymers

Zachary Rehg, Alex Patrick, Ronald White, Jin Choi, Caleb Luogardner, Michael Norenberg, Arash Afshar, Stephen Hill, Dorina Mihut, Mercer University, Macon, GA

4301613: Resolving Local Sliding and Stress to Study Tribofilm Growth In situ

Anthony Kholoshenko, Parker LaMascus, University of Pennsylvania, Philadelphia, PA; Meagan Elinski, Hope College, Holland, MI; Andrew Jackson, University of Pennsylvania, Philadelphia, PA; Marjeta Fusha, Robert Wiacek, Pixelligent Technologies LLC, Baltimore, MD; Robert Carpick, University of Pennsylvania, Philadelphia, PA

4277928: Friction and Wear of PTFE Composites on DLC Counter Sample

Catherine Fidd, William Nester, Brandon Krick, Florida State University, Tallahassee, FL; Kylie Van Meter, Sandia National Laboratories, Albuquerque, NM

4205505: Study of the Influence of a Sour Media on Erosion-Corrosion of an API 5L-X52 Section Pipeline

Javier Frias-Flores, Ezequiel Gallardo, Jesus Godinez-Salcedo, Manuel Vite-Torres, Instituto Politecnico Nacional, México, Iztapalapa, Mexico

4203381: Evaluating the Impact of Corroded Brake Rotors and Pads on Braking Performance and Particle Wear Emissions

Ishmaeel Ghouri, University of Leeds, Rochdale, United Kingdom

4203568: The Potential Lubricating Role of Alginate Acid and Carrageen in Cleaning Solution for Orthokeratology Lenses

Hsu-Wei Fang, You-Cheng Chang, Chen-Ying Su, National Taipei University of Technology, Taipei, Taiwan

4205160: Investigating The Tribological Performance of Additively Manufactured Al-6061 Alloy for Space Application

Pial Das, Sougata Roy, Iowa State University, Ames, IA; Annette Gray, Matthew Mazurkivich, William Scott, NASA, Huntsville, AL

4205347: Enhancing Scratch Resistance of Graphite Coatings through a Polydopamine Adhesive Layer

Adedoyin Abe, Min Zou, University of Arkansas, Fayetteville, AR

4335697: A Tribological Study for the Optimization of Pizza Making

Leilani Elkaslsy, Kanoa Parker, Miranda Brandt, Harvey Mudd College, Claremont, CA

4335693: SLA Additive Manufacturing: A Review of Resin Formulations and Patterning's Impact on Abrasiveness

Miranda Brandt, Kanoa Parker, Leilani Elkaslsy, Harvey Mudd College, Claremont, CA

4205458: Interactions Between Surface Texture Lubricant Additives

Tom Reddyhoff, Mohd Syafiq Abd Aziz, Imperial College London, London, England, United Kingdom

4304189: Tribological Performance of a Cold Spray Ti/TiO_x Composite Coating Optimized for Boundary Lubrication Conditions

Adam Nassif, Sarah Sadoudi, Frédéric Georgi, Francesco Delloro, Pierre Montmitonnet, Imène Lahouij, MINES Paris PSL Research University, Sophia Antipolis, France; Mustapha Yahiaoui, Abdel-wahed Elghizlani, Abdel Tazibt, CRITT-TJFU, Bar-le-Duc, France

4307896: Frictional Behavior of Soft Solids

Abrar Mohammed, Alison Dunn, University of Florida, Gainesville, FL; Srividhya Sridhar, Shelby Hutchens, University of Illinois Urbana-Champaign, Urbana, IL

4287141: Thin Film Lubrication for Extreme Environments

Leon Burky, Juan Bosch Giner, Christopher DellaCorte, University of Akron, Akron, OH

4303472: Experimental Considerations for Measuring the Forces of Fracture and Friction During Needle Insertion into Soft Materials

Gabriela Whitmer, Sebastian Herrero Casteigts, Abrar Mohammed, Alison Dunn, University of Florida, Gainesville, FL

4307914: Open-Source, Multi-component Control of Wear Tribometer

Adam Hamdan, Ta'myah Byars, Alison Dunn, University of Florida, Gainesville, FL

4307907: Interfacial Stiffness and Contact Mechanics of Coated Aluminum Surfaces

Thomas Eggers, Alexander Gordillo Jimenez, Alison Dunn, University of Florida, Gainesville, FL

4307918: Frictional Control of Bio-inspired Latches

Nabin Bastola, Kaylei Rodriguez, Rajshibhu Pandey, Jadon Reuben, Alison Dunn, University of Florida, Gainesville, FL

4310894: Surface Topography Analysis of As-built Parts in Binder Jetting Additive Manufacturing Process

Ertiza Hossain Shopnil, Christopher Williams, Bart Raeymaekers, Virginia Tech, Blacksburg, VA

4310874: The Effect of Build Plate Location on As-built Surface Topography of Laser Powder Bed Fusion Parts

Piash Bhowmik, Bart Raeymaekers, Virginia Polytechnic Institute and State University, Blacksburg, VA

4309949: Ultra-low Wear of Boride Layers Formed on WRe Alloys

Merve Uysal Komurlu, Ali Erdemir, Texas A& M University, College Station, TX

Early Career Posters

4200641: Stretching and Sliding Capillary Bridges

Lennard Holschuh, Lars Pastewka, University of Freiburg, Freiburg, Germany

4300120: The Influence of Heat Treatment on Tribofilm Formation of Pyrowear 675

Justin Schuh, Elizabeth Craft, Ronald Zeszut, University of Dayton Research Institute, Dayton, OH; Daulton Isaac, AFRI Turbine Engine Division, Wright Patterson Air Force Base, OH

4294441: CO₂ Emission Reduction Through Targeted Grease Analysis

Julie Solis, MRG Labs, York, PA

4298899: Investigation into Actual Asperity Pressures in Elastic-plastic Rough Surface Contacts

Keita Inose, Amir Kadiric, Imperial College London, London, United Kingdom

4242539: The Best Way of Preventing and Anticipating the Oxidation Residues and Varnish Formation

Marie Roucan, Jérémy Pallas, ANTARA GROUPE, Chateaudun, France

4201772: The Influence of Boron-Containing Ionic Liquid on the Colloidal Stability and Tribological Property of Lubricating Grease

Enhui Zhang, Yunxin Wang, Weimin Li, Rui Ma, Junyang Dong, Wenwen Ma, Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, Qingdao, China

4295764: Tribochemical Reactions of Si-DLC/Si₃N₄ by Reactive Molecular Dynamics Simulation

Tomoya Hasegawa, Iwa Ou, Masayuki Kawaura, Eagle Industry Co., Ltd., Sakado, Saitama, Japan; Momoji Kubo, Tohoku University, Sendai, Miyagi, Japan

4299877: The Influence of Lubricant Composition on Tribofilm Formation on P675

Elizabeth Craft, Justin Schuh, Ronald Zeszut, University of Dayton Research Institute, Dayton, OH; Daulton Isaac, AFRI Turbine Engine Division, Wright Patterson Air Force Base, OH

4301233: New Insights into the Interactions Between Phosphorus and Sulfur-containing Lubricating Additives

Yunlong Chen, Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, Qingdao, Shandong, China

4192999: A Century of Lubrication Modeling Techniques: A Journey from Reynolds Equation to Contemporary AI-based Simulation

Abderrachid Hamrani, Fuad Hasan, Florida International University (FIU), Miami, FL

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