



Call for Papers

Lab to Field: Bridging the Gap between Bench and Engine

Lubrication Fundamentals and Engine & Drivetrain Joint Session

Hyatt Regency Chicago

Dear friends & colleagues,

Lubrication Fundamentals and Engine & Drivetrain Technical Committees are soliciting presentations for the 75th annual STLE Meeting and Exhibition on May 3-7, 2020 at the Hyatt Regency Chicago in downtown Chicago, Illinois.

Functionality and lifetime of engines – comprising engine components as well as the engine oil – are mostly based on time-consuming and expensive engine and chassis dynamometer bench tests. Empirical data gained from lab devices such as tribometers provide valuable fundamental knowledge but correlation with field performance is limited. Some limitations and challenges include:

- Long-term effects, such as oil degradation, are often neglected due to resource restrictions
- In-depth evaluation of engine tests is limited also due to resource restrictions
- Various critical tribosystems occur in an engine thus requiring multiple lab tests
- Tribo-testing (field to lab) is carried out with a too high degree of down-scaling (simplification)

The “lab-to-field” approach aims at bridging the gap between laboratory bench testing and real world, field applications. Some of the approaches include:

- Understanding the **impact of nano-scale behaviour on macro-scale performance** (e.g. lubricant formulation and condition correlating to wear and friction) by proper online-tools and post-characterization of engine oils and engine parts
- Analytical and tribometrical **verification of engine oils** of various condition obtained **from controlled bench tests and lab ageing with those from the uncontrolled field**
- Providing **combined experimental and numerical simulation procedures**.

Eventually, the “lab-to-field” methodology should make possible the acceleration of engine (component) development and allowing more rapid adoption of new specifications (e.g. GF6).

Please use the following link: <https://stle2020.abstractcentral.com/>

The deadline for a 150-word abstract is October 1, 2019

For questions or additional information related to this abstract submission, please contact:

Carlos J. Sanchez, PhD (carlos.sanchez@swri.org)
Southwest Research Institute
Paper Solicitation Chair (PSC) for Engine & Drivetrain committee

Jodie Nelson (jnelson@amref.com)
American Refining Group, Inc
Paper Solicitation Char (PSC) for Lubrication Fundamentals