



Tackling Emissions from the Internal Combustion Engine: Advances in Piston/Bore Tribology

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Message from the Guest Editors

With over 1 billion ICE-powered cars currently in use in the world, improving the fuel efficiency and curbing emissions of the current fleet is crucial. Moreover, many lessons learnt through ICE tribology optimization work lay a useful knowledge foundation for electrical powertrain optimization. One key lesson is that a complete system approach is required in order to balance multiple aspects of vehicle performance, durability, and economy.

Since a significant part of energy losses in ICEs come from friction, engine tribology has been an important research topic over the past two decades and a significant progress in improving the engine efficiency has been achieved. Improving the piston/bore tribology has been one of the chief contributors to this progress. Significant advances have been made in light-weight piston design, the use of low friction coatings for piston skirts and the ring pack, the use of advanced honing methods and spray-coatings for the cylinder bore, etc.

This Special Issue aims to cover the current advances in the piston/bore tribology with contributions from world-leading experts in the field.

