You should select from the following keyword when submitting a manuscript to Tribology Letters. If you have any questions or comments about the keywords, please contact Nic Spencer (nicholas.spencer@mat.ethz.ch).

**Tribology Letters Keywords**

*Additives, Chemistry and Performance*
- Additive Decomposition
- Additive Degradation
- Additive Depletion
- Additive Deposition
- Additive Interaction
- Additive Solubility
- Antifatigue Additives
- Antioxidants
- Antiwear Additives
- Biocides
- Corrosion/Rust Inhibitors
- Detergents
- Demulsifiers
- Dispersants
- Emulsifiers
- Extreme Pressure Additives
- Foam Control Additives
- Friction Modifiers
- Grease Thickeners
- Magnetic Particles
- Metal Passivators
- Pour Point Depressants
- Solid Lubricant Additives
- VI Improvers

*Applied Tribology, by Type of Industry*
- Aviation
- Agriculture
- Aluminum Industry
- Automotive
- Biotribology
- Cement Industry
- Economics
- Food Processing
- Forestry
- History of Tribology
- Magnetic Data Storage
- Marine
- Mining
- Oil Production
- Paper Manufacturing
- Petrochemical Industry
Power Generation
Railroad
Space
Steel Industry
Textile Manufacturing
Tribology Education

**Base Stocks, Chemistry and Performance**
- Biodegradable Base Stocks
- Cryogenic Fluids
- Fire-Resistant Base Stocks
- Fluorocarbons
- Food-Grade Base Stocks
- Liquid Crystals
- Mineral Base Stock Refining
- Mineral Base Stocks
- Organic Esters
- Phosphate Esters
- Phosphazenes
- Polyethers
- Polyglycols
- Silicate Esters
- Silicones
- Synthetic Base Stocks
- Synthetic Hydrocarbons
- Vegetable Oils

**Boundary Lubrication and Nanotribology**
- Boundary Lubrication Friction (see also, Friction)
- Boundary Lubrication Chemistry
- Boundary Lubrication (General)
- Boundary Lubrication Test Methods
- Boundary Lubrication Thermal Effects
- Boundary Lubrication Wear (see also, Wear)
- Nanotribology

**Component and Machine Tribology**
- Centrifugal Gas Compressors
- Centrifugal Hydraulic Pumps
- Compressors (General)
- Couplings - see Gears, Couplings, Etc.
- Electrical Equipment
- Engines - see Engine Tribology
- Gas Turbines - see Engine Tribology
- Gear Hydraulic Pumps
- Gears - see Gears, Couplings, etc.
- Human Joints, Replacements
- Hydraulic Drives
- Hydraulic Systems (General)
- Hydraulic Valves
- Hydrodynamic Bearings - See Hydrodynamic, etc.
- Machine Tools
Magnetic Bearings
Magnetic Data Disks (Hard, Floppy)
Magnetic Data Tapes
Magnetic Data Recording Heads
MEMS Devices
Paper Machines
Piston Gas Compressors
Piston Hydraulic Pumps
Refrigerant Compressors
Rolling Bearings - see Rolling Element Bearings
Screw Gas Compressors
Slideways
Steam Turbines
Torque Converters
Valvetrains, Cams and Lifters
Vane Pumps

Computational and Math Methods for Tribology
Data Acquisition
Dynamic Modelling
Expert Systems
Fluid Mechanics Methods
Statistical Analysis
Tribology Databases

Contact Mechanics and Fatigue
Contact Mechanics
Fatigue Analysis
Fatigue Crack Propagation
Non-Contact Fatigue
Stress Analysis
Thermal Analysis

Elastohydrodynamic Lubrication (EHL)
Compliant Surface EHL
EHL Film Geometry
EHL (General)
EHL with Greases
EHL with Non-Newtonian Lubricants
Low Elastic Modulus EHL
Micro-EHL
Partial-EHL, Roughness Effects
Starvation in EHL
Thermal Effects in EHL
Traction

Engine Tribology
Diesel Engines
Gasoline Engines
Gas/Jet Turbines
Rocket Engines
Marine Diesel Engines
Natural Gas Engines

**Friction and Energy Conservation**
- Adhesion, Stiction
- Brakes
- EHL Friction (Traction) - see EHL
- Energy Conservation
- Friction Mechanisms
- Friction Test Methods
- Hydrodynamic Friction
- Rolling Friction
- Self Lubrication Friction
- Solid Lubrication Friction
- Static Friction
- Stick-Slip
- Unlubricated Friction

**Gears, Couplings, Transmissions**
- Automatic Transmissions
- Belt Drives
- Bevel Gears
- Chain Drives
- Clutches
- Constant Velocity Joints
- Continuously Variable Transmissions (CVT)
- Epicyclic (Planetary) Gears
- Friction Drives
- Gear Couplings
- Gears (General)
- Helical Gears
- Hypoid Gears
- Open Gears
- Rack and Pinion Gears
- Splines
- Spur Gears
- Traction Drives (IVT)
- Worm Gears

**Hydrodynamic and Hydrostatic Lubrication and Bearings**
- Air Bearings
- Air, Gas and Vapor in Hydrodynamics
- Cavitation in Hydrodynamics
- Compliant Surface Bearings
- Compressibility in Hydrodynamics
- Film Geometry in Hydrodynamics
- Flow Rate in Hydrodynamics
- Foil Bearings
- Human Joint Hydrodynamics
- Hydrodynamic Bearings (General)
- Hydrodynamic Friction - see Friction
- Hydrodynamic Lubrication (General)
- Hydrostatic Bearings
Hydrostatic Lubrication
Inertia Effects in Hydrodynamics
Journal Bearings
Load-Carrying Capacity
Multi-Lobe Bearings
Non-Newtonian Effects in Hydrodynamics
Porous Metal Bearings
Roughness Effects in Hydrodynamics
Slideway Bearings
Squeeze-Film Dampers
Squeeze-Film Lubrication
Stability in Hydrodynamics
Starvation in Hydrodynamics
Thermal Effects in Hydrodynamics
Tilting-Pad Bearings
Turbulent Flow in Hydrodynamics
Vapor Phase Lubrication
Viscoelasticity in Hydrodynamics

Lubricant Application and Disposal Methods
Aerosol Lubrication
Grease Application
Lubricant Circulation Systems
Lubricant Cleanup, Solvents
Lubricant Conservation
Lubricant Disposal
Lubricant Reclamation
Lubricant Recycling
Lubricant Rerefining
Lubricant Storage
Lubricant Waste
Lubrication Scheduling
Mist Lubrication
Oil Bath Lubrication
Pollution
Splash Lubrication
Spray Lubrication
Vapor Phase Lubrication
Wick, Ring, Disc Lubrication

Lubricant and Grease Formulation and Performance
Automatic Transmission Fluids
Biodegradable Oils
Circulating Oils
Compressor Oils
Coupling Lubricants
Cryogenic Lubricants
Diesel Engine Oils
Ferrofluids
Fire-Resistant Fluids
Food-Grade Lubricants
Gas Turbine Oils
Gasoline Engine Oils
Gear Lubricants
Greases
Hydraulic Fluids
Internal Combustion Engine Oils
Jet Engine Oils
Lubricant Blending and Manufacture
Lubricant Marketing
Metalworking Fluids - see Metalworking, etc.
Natural Gas Engine Oils
Paper Machine Oils
Process Fluids
Radiation Resistant Lubricants
Refrigeration Oils
Screw Thread Lubricants
Spindle Oils
Steam Turbine Oils
Traction Fluids
Vapor Phase Lubricants
Way Oils

**Lubricant Properties, Chemical Analysis**
- Acidity
- Basicity
- DSC
- Ferrography
- Fluorescence
- Fuel Dilution
- Gas Chromatography
- Hydrolytic Stability
- Infra Red
- Liquid Chromatography
- NMR
- Oxidation Resistance
- Radiation Resistance
- Spectroscopy
- TGA
- Thermal Stability
- Voltametric

**Lubricant Properties, Physical Analysis**
- Air Release
- Bulk Modulus
- Demulsibility
- Density
- Electrical and Magnetic Properties
- Electrorheological Behavior
- Emulsivity
- Flash and Fire Point
- Foaming
- Gas Solubility
Heat Capacity
Low Temperature
Non-Newtonian Behavior
Pour Point
Rheology
Surface Tension
Thermal Conductivity
Traction, Shear Strength
Vapor Pressure, Volatility
Viscoelasticity
Viscosity
Viscosity-Pressure
Viscosity-Temperature

**Maintenance, Monitoring and Lubricant Problems**
Chemical Contamination
Cleanliness
Computer Use in Maintenance
Equipment Monitoring
Failure Analysis
Filtration
Humidity
Hydrolysis
Incompatible Fluids
Life Prediction Methods
Lubricant Degradation
Maintenance
Oil Condition Monitoring
Oxidative Degradation
Particulates
Water Contamination

**Materials in Tribology (Solids)**
Aluminum
Beryllium
Borides
Carbon, Graphite
Carbides
Ceramic Composite
Ceramics
Chromium
Cobalt
Copper
Diamond
Elastomers
Ferrous Alloys, Steel
Galium
Glass
Gold
Iron
Lead
Molybdenum
Nickel  
Nitrides  
Non-Ferrous Alloys  
Oxides  
Polymers (solid)  
Powder Metals  
Self-Lubricating Composites  
Silicon  
Silver  
Tin  
Titanium  
Tungsten

**Metalworking and Metalworking Fluids**
- Boring  
- Casting  
- Cutting  
- Cutting Fluids  
- Drawing Fluids  
- Drawing, Extruding  
- Finishing  
- Forging  
- Forging Fluids  
- Forming  
- Grinding  
- Grinding Fluids  
- Honing  
- Jet Cutting  
- Lapping  
- Milling  
- Polishing  
- Quenching Fluids  
- Rolling  
- Rolling Fluids  
- Tapping  
- Turning

**Rolling Element Bearings**
- Ball Bearings  
- Ball Screw  
- Cylindrical Roller Bearings  
- Linear Rolling Bearings  
- Needle Roller Bearings  
- Precision Rolling Bearings  
- Rolling Element Bearings, General  
- Rolling Element Bearing Noise  
- Spherical Roller Bearings  
- Tapered Roller Bearings

**Seals and Sealing Technology**
- Bellows  
- Brush Seals
Elastomeric Seals
Elastomeric Static Seals
Face Seals
Gaskets
Labyrinth Seals
Lip Seals
Magnetic Seals
Mechanical Seals
O-Rings
Packing Seals
Piston Rings
Reciprocating Seals
Rod Seals
Rotary Seals
Sealants
Static Seals
Two-Phase Seals
Viscoseals

**Solid and Self Lubrication**
Graphite
Jewel Bearings
Molybdenum Disulfide
PTFE
Self Lubrication
Self Lubrication Friction - see Friction
Self Lubricating Bearings
Solid Lubricants
Solid Lubricated Bearings
Solid Lubrication
Solid Lubrication Film Thickness
Solid Lubrication Friction--see Friction
Solid Lubrication Mechanisms
Solid Lubrication Wear--see Wear
Spherical (pivot) Bearings

**Surface Technology and Analysis**
Additive- Deposited Films
AES(Auger)
AFM
Annealing
Barrier Films
Carburizing
Chemical Analytical Techniques
Coatings, Friction-Reducing
Coatings, Wear-Resistant
Corrosion
Dynamic Light Scattering
EDS
EDXRF
EELS
EPMA
ESCA
EXAFS
FTIR
Hardening
Hardness
Hydrodynamics, Roughness Effects - see Hydrodynamics
Ion Implantation
Metallurgical Analysis
Mossbauer
Nitriding
Optical Microscopy
Partial-EHL, Roughness Effects - see EHL
Raman
RBS
Running-In
SEM
SIMS
STM
Surface Energy
Surface Modification
Surface Roughness
Surface Roughness Analysis and Models
Surface Roughness Measurement Methods
TDS
TEM
XANES
XPS
XRD

**Toxicology and Hygiene**
Food Contact
Hygiene
Lubricant Microbial Degradation
Safety
Toxicology

**Wear and Failure**
Abrasive Wear
Adhesive Wear
Bench Wear Tests
Cavitation Erosion
Corrosive Wear
Delamination Wear
Electrical Erosive Wear
Equipment Wear Tests
Erosive Wear
Fatigue
Fretting
Galling
Impact Wear
Oxidative Wear
Rolling-Contact Fatigue
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**Other**

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