Ivan Krupka

List of Publications by Citations

123 papers	1,629 citations	23 h-index	33 g-index
137 ext. papers	1,854 ext. citations	3.1 avg, IF	4.9 L-index

#	Paper	IF	Citations
123	The effect of surface texturing on thin EHD lubrication films. *Tribology International*, **2007**, 40, 1100-1110	4.9	89
122	An Automatic System for Real-Time Evaluation of EHD Film Thickness and Shape Based on the Colorimetric Interferometry. *Tribology Transactions*, **1999**, 42, 303-309	1.8	73
121	Effect of surface texturing on rolling contact fatigue within mixed lubricated non-conformal rolling/sliding contacts. *Tribology International*, **2010**, 43, 1457-1465	4.9	52
120	Effect of surface texturing on mixed lubricated non-conformal contacts. *Tribology International*, **2008**, 41, 1063-1073	4.9	50
119	An Experimental Validation of the Recently Discovered Scale Effect in Generalized Newtonian EHL. *Tribology Letters*, **2009**, 33, 127-135	2.8	42
118	A novel tribological study on DLC-coated micro-dimpled orthopedics implant interface. *Journal of the Mechanical Behavior of Biomedical Materials*, **2015**, 45, 121-31	4.1	40
117	EHL simulation using the free-volume viscosity model. *Tribology Letters*, **2006**, 23, 27-37	2.8	38
116	Comment on History, Origins and Prediction of Elastohydrodynamic Friction by Spikes and Jie. *Tribology Letters*, **2015**, 58, 1	2.8	36
115	The Effect of Load (Pressure) for Quantitative EHL Film Thickness. *Tribology Letters*, **2010**, 37, 613-622	2.8	36
114	Effect of surface roughness on lubricant film breakdown and transition from EHL to mixed lubrication. *Tribology International*, **2016**, 100, 116-125	4.9	33
113	Effect of surface texturing on elastohydrodynamically lubricated contact under transient speed conditions. *Tribology International*, **2011**, 44, 1144-1150	4.9	30
112	Effect of surface topography on mixed lubrication film formation during start up under rolling/sliding conditions. *Tribology International*, **2010**, 43, 1035-1042	4.9	29
111	The impact of surface and geometry on coefficient of friction of artificial hip joints. *Journal of the Mechanical Behavior of Biomedical Materials*, **2017**, 72, 192-199	4.1	28
110	Influence of sanding parameters on adhesion recovery in contaminated wheel–rail contact. *Wear*, **2015**, 322-323, 218-225	3.5	28
109	Experimental and numerical investigation on the behavior of transverse limited micro-grooves in EHL point contacts. *Tribology International*, **2015**, 84, 81-89	4.9	27
108	Effect of shot peening on rolling contact fatigue and lubricant film thickness within mixed lubricated non-conformal rolling/sliding contacts. *Tribology International*, **2011**, 44, 1726-1735	4.9	27
107	Improved wear resistance of functional diamond like carbon coated Ti-6Al-4V alloys in an edge loading conditions. *Journal of the Mechanical Behavior of Biomedical Materials*, **2016**, 59, 586-595	4.1	27

106	The effect of lubricant constituents on lubrication mechanisms in hip joint replacements. *Journal of the Mechanical Behavior of Biomedical Materials*, **2015**, 55, 295-307	4.1	25
105	In situ measurements of thin films in bovine serum lubricated contacts using optical interferometry. *Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine*, **2014**, 228, 149-58	1.7	25
104	The effect of surface roughness on friction and film thickness in transition from EHL to mixed lubrication. *Tribology International*, **2018**, 128, 356-364	4.9	24
103	Fabrication and characterization of DLC coated microdimples on hip prosthesis heads. *Journal of Biomedical Materials Research - Part B Applied Biomaterials*, **2015**, 103, 1002-12	3.5	24
102	Local Effects in EHL Contacts with Oil-Impregnated Sintered Materials. *Lubricants*, **2019**, 7, 1	3.1	24
101	Experimental study of starved EHL contacts based on thickness of oil layer in the contact inlet. *Tribology International*, **2013**, 67, 140-145	4.9	23
100	Effect of surface texturing on lubrication film formation and rolling contact fatigue within mixed lubricated non-conformal contacts. *Meccanica*, **2011**, 46, 491-498	2.1	21
99	A novel functional layered diamond like carbon coating for orthopedics applications. *Diamond and Related Materials*, **2016**, 61, 56-69	3.5	20
98	Effect of Surface Texturing on Very Thin Film EHD Lubricated Contacts. *Tribology Transactions*, **2008**, 52, 21-28	1.8	20
97	Behavior of real roughness features within mixed lubricated non-conformal contacts. *Tribology International*, **2008**, 41, 1153-1160	4.9	20
96	On the observation of lubrication mechanisms within hip joint replacements. Part I: Hard-on-soft bearing pairs. *Journal of the Mechanical Behavior of Biomedical Materials*, **2019**, 89, 237-248	4.1	20
95	In situ observation of lubricant film formation in THR considering real conformity: The effect of model synovial fluid composition. *Tribology International*, **2018**, 117, 206-216	4.9	19
94	In situ observation of lubricant film formation in THR considering real conformity: The effect of diameter, clearance and material. *Journal of the Mechanical Behavior of Biomedical Materials*, **2017**, 69, 66-74	4.1	18
93	Analytical and experimental investigation on friction of non-conformal point contacts under starved lubrication. *Meccanica*, **2013**, 48, 545-553	2.1	18
92	Enhancing the parameters of starved EHL point conjunctions by artificially induced replenishment. *Tribology International*, **2013**, 66, 134-142	4.9	18
91	Mechanical wear and oxidative degradation analysis of retrieved ultra high molecular weight polyethylene acetabular cups. *Journal of the Mechanical Behavior of Biomedical Materials*, **2018**, 79, 314-323	4.1	17
90	Towards near-permanent CoCrMo prosthesis surface by combining micro-texturing and low temperature plasma carburising. *Journal of the Mechanical Behavior of Biomedical Materials*, **2015**, 55, 215-227	4.1	17
89	Experimental Study of Roughness Effect in a Rolling–Sliding EHL Contact. Part I: Roughness Deformation. *Tribology Transactions*, **2016**, 59, 267-276	1.8	17

88	Behavior of thin viscous boundary films in lubricated contacts between micro-textured surfaces. *Tribology International*, **2009**, 42, 535-541	4.9	17
87	Laboratory investigation of ability of oil-based friction modifiers to control adhesion at wheel-rail interface. *Wear*, **2016**, 368-369, 230-238	3.5	17
86	The Influence of Proteins and Speed on Friction and Adsorption of Metal/UHMWPE Contact Pair. *Biotribology*, **2017**, 11, 51-59	2.3	16
85	Metal matrix to ceramic matrix transition via feedstock processing of SPS titanium composites alloyed with high silicone content. *Journal of Alloys and Compounds*, **2018**, 764, 776-788	5.7	16
84	Newtonian quantitative elastohydrodynamic film thickness with linear piezoviscosity. *Tribology International*, **2010**, 43, 2159-2165	4.9	16
83	The influence of thin boundary films on real surface roughness in thin film, mixed EHD contact. *Tribology International*, **2007**, 40, 1553-1560	4.9	16
82	Lubrication within hip replacements - Implication for ceramic-on-hard bearing couples. *Journal of the Mechanical Behavior of Biomedical Materials*, **2016**, 61, 371-383	4.1	16
81	Effect of Surface Velocity Directions on Elastohydrodynamic Film Shape. *Tribology Transactions*, **2013**, 56, 301-309	1.8	15
80	The Shear-Thinning Elastohydrodynamic Film Thickness of a Two-Component Mixture. *Journal of Tribology*, **2008**, 130,	1.8	15
79	Tribological investigation of ultra-high molecular weight polyethylene against advanced ceramic surfaces in total hip joint replacement. *Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology*, **2015**, 229, 410-419	1.4	14
78	Running-in friction of hip joint replacements can be significantly reduced: The effect of surface-textured acetabular cup. *Friction*, **2020**, 8, 1137-1152	5.6	14
77	Evidence of Plug Flow in Rolling–Sliding Elastohydrodynamic Contact. *Tribology Letters*, **2014**, 54, 151-160	2.8	14
76	Theoretical and Experimental Investigations on EHL Point Contacts with Different Entrainment Velocity Directions. *Tribology Transactions*, **2013**, 56, 728-738	1.8	14
75	Effect of real longitudinal surface roughness on lubrication film formation within line elastohydrodynamic contact. *Tribology International*, **2010**, 43, 2384-2389	4.9	12
74	The role of constituents contained in water-based friction modifiers for top-of-rail application. *Tribology International*, **2018**, 117, 87-97	4.9	11
73	UHMWPE acetabular cup creep deformation during the run-in phase of THA's life cycle. *Journal of the Mechanical Behavior of Biomedical Materials*, **2018**, 87, 30-39	4.1	11
72	Experimental Study of Central and Minimum Elastohydrodynamic Film Thickness by Colorimetric Interferometry Technique. *Tribology Transactions*, **2000**, 43, 611-618	1.8	11
71	Wear Analysis of Extracted Polyethylene Acetabular Cups Using a 3D Optical Scanner. *Tribology Transactions*, **2017**, 60, 437-447	1.8	10

70	Fundamentals of thermal elastohydrodynamic lubrication in Si3N4 and steel circular contacts. *Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology*, **2015**, 229, 929-939	1.4	10
69	Mechanical Degradation of the Liquid in an Operating EHL Contact. *Tribology Letters*, **2011**, 41, 191-197	2.8	10
68	The effect of surface grooves on film breakdowns in point contacts. *Tribology International*, **2016**, 102, 249-256	4.9	10
67	The Effect of Synovial Fluid Composition, Speed and Load on Frictional Behaviour of Articular Cartilage. *Materials*, **2020**, 13,	3.5	9
66	Experimental Study of Roughness Effect in a Rolling–Sliding EHL Contact. Part II: Complementary Effects. *Tribology Transactions*, **2016**, 59, 277-285	1.8	9
65	The Effect of Kinematic Conditions and Synovial Fluid Composition on the Frictional Behaviour of Materials for Artificial Joints. *Materials*, **2018**, 11,	3.5	9
64	Quantitative elastohydrodynamic film thickness of mechanically degraded oil. *Tribology International*, **2013**, 64, 33-38	4.9	9
63	The Behavior of Surface Roughness in EHL Contacts Under Small Slide to Roll Ratios. *Tribology Letters*, **2012**, 47, 357-366	2.8	9
62	Observation of lubrication mechanisms in knee replacement: A pilot study. *Biotribology*, **2019**, 17, 1-7	2.3	9
61	On the observation of lubrication mechanisms within hip joint replacements. Part II: Hard-on-hard bearing pairs. *Journal of the Mechanical Behavior of Biomedical Materials*, **2019**, 89, 249-259	4.1	9
60	Thermal Elastohydrodynamic Lubrication of Ceramic Materials. *Tribology Transactions*, **2018**, 61, 869-879	1.8	8
59	Lubricant flow in thin-film elastohydrodynamic contact under extreme conditions. *Friction*, **2016**, 4, 380-390	3.0	8
58	Influence of thermal conductivity of contact bodies on perturbed film caused by a ridge and groove in point EHL contacts. *Tribology International*, **2016**, 100, 84-98	4.9	8
57	Effects of lubricant rheology and impact speed on EHL film thickness at pure squeeze action. *Tribology International*, **2017**, 106, 1-9	4.9	8
56	Thin lubricating films behaviour at very high contact pressure. *Tribology International*, **2006**, 39, 1726-1731	4.9	8
55	Numerical study on the interaction of transversely oriented ridges in thermal elastohydrodynamic lubrication point contacts using the Eyring shear-thinning model. *Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology*, **2017**, 231, 93-106	1.4	7
54	Influence of Lubricant Inlet Film Thickness on Elastohydrodynamically Lubricated Contact Starvation. *Journal of Tribology*, **2017**, 139,	1.8	7
53	Biotribology of Synovial Cartilage: A New Method for Visualization of Lubricating Film and Simultaneous Measurement of the Friction Coefficient. *Materials*, **2020**, 13,	3.5	7

52	Reducing the friction of lubricated nonconformal point contacts by transverse shallow micro-grooves. *Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology*, **2015**, 229, 420-428	1.4	7
51	Calculation of pressure distribution in EHD point contacts from experimentally determinated film thickness. *Tribology International*, **2005**, 38, 391-401	4.9	7
50	The low adhesion problem: The effect of environmental conditions on adhesion in rolling-sliding contact. *Tribology International*, **2020**, 151, 106521	4.9	7
49	Towards the understanding of lubrication mechanisms in total knee replacements – Part I: Experimental investigations. *Tribology International*, **2021**, 156, 106874	4.9	7
48	The effect of surface grooves on transition to mixed lubrication. *Tribology International*, **2017**, 114, 409-417	4.9	6
47	Deformation of Rough Surfaces in Point EHL Contacts. *Tribology Letters*, **2019**, 67, 1	2.8	6
46	Lubricant Rupture Ratio at Elastohydrodynamically Lubricated Contact Outlet. *Tribology Letters*, **2015**, 59, 1	2.8	6
45	Thin film lubrication study by colorimetric interferometry. *Tribology Series*, **2000**, 38, 695-704		6
44	Formation of micro-grooves under impact loading in elliptical contacts with surface ridges. *Tribology International*, **2013**, 65, 336-345	4.9	5
43	An Approximate Approach to Predict the Degree of Starvation in Ball–Disk Machine Based on the Relative Friction. *Tribology Transactions*, **2013**, 56, 681-686	1.8	5
42	Asperity-based model for prediction of traction in water-contaminated wheel-rail contact. *Tribology International*, **2021**, 157, 106900	4.9	5
41	Effects of lateral harmonic vibrations on film thickness in EHL point contacts. *Tribology International*, **2018**, 117, 236-249	4.9	4
40	Transition from plug-flow to linear speed profile near a dent in a rolling–sliding EHL contact. *Tribology International*, **2016**, 100, 344-350	4.9	4
39	EXPERIMENTAL OBSERVATION OF ELASTOHYDRODYNAMICALLY LUBRICATED CONTACTS REPLENISHMENT. *MM Science Journal*, **2015**, 2015, 640-644	1.9	4
38	A systematic review on correlation between biochemical and mechanical processes of lubricant film formation in joint replacement of the last 10 years. *Lubrication Science*, **2019**, 31, 85-101	1.3	4
37	Analytical Formula for the Ratio of Central to Minimum Film Thickness in a Circular EHL Contact. *Lubricants*, **2018**, 6, 80	3.1	4
36	The Effect of Kinematic Conditions on Film Thickness in Compliant Lubricated Contact. *Journal of Tribology*, **2018**, 140,	1.8	4
35	On the Temperature and Lubricant Film Thickness Distribution in EHL Contacts with Arbitrary Entrainment. *Lubricants*, **2018**, 6, 101	3.1	4

34	Application of Spectroscopic Reflectometry to Elastohydrodynamic Lubrication Films Study. *Tribology Letters*, **2012**, 45, 195-205	2.8	3
33	Prediction of Shallow Indentation Effects in a Rolling-Sliding EHL Contact Based on Amplitude Attenuation Theory. *Tribology Online*, **2017**, 12, 1-7	0.9	3
32	EHL Film Thickness Behaviour Under High Pressure Comparison between Numerical and Experimental Results. *Solid Mechanics and Its Applications*, **2006**, 217-228	0.4	3
31	Experimental study of the behaviour of real asperities within lubricated contacts. *Lubrication Science*, **2006**, 18, 129-139	1.3	3
30	Differential Colorimetry: A tool for the analysis of fluid film lubrication. *Mecanique Et Industries*, **2002**, 3, 571-581		3
29	Elastohydrodynamic lubricant film shape - comparison between experimental and theoretical results. *Tribology Series*, **1998**, 34, 221-232		3
28	FILM THICKNESS MAPPING IN LUBRICATED CONTACTS USING FLUORESCENCE. *MM Science Journal* , **2015**, 2015, 821-824	1.9	3
27	Influence of Li Grease Thickener Types on Film Thicknesses Formed between Smooth and Dented Surfaces. *Tribology Online*, **2017**, 12, 262-273	0.9	3
26	Analysis of Friction in Total Knee Prosthesis during a Standard Gait Cycle. *Lubricants*, **2021**, 9, 36	3.1	3
25	Effects of out-of-contact lubricant channeling on friction and film thickness in starved elastohydrodynamic lubrication point contacts. *Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology*, **2017**, 231, 432-440	1.4	2
24	On the Relation between Friction Increase and Grease Thickener Entraining on a Border of Mixed EHL Lubrication. *Lubricants*, **2020**, 8, 12	3.1	2
23	Film formation in EHL contacts with oil-impregnated sintered materials. *Industrial Lubrication and Tribology*, **2018**, 70, 612-619	1.3	2
22	The Influence of Surface Modification on Friction and Lubrication Mechanism Under a Bovine Serum Lubricated Condition. *Tribology Transactions*, **2016**, 59, 316-322	1.8	2
21	Microgroove formation in surface ridges in impact elliptical EHL contacts. *Lubrication Science*, **2014**, 26, 283-299	1.3	2
20	Numerical evaluation of pressure from experimentally measured film thickness in EHL point contact. *Lubrication Science*, **2008**, 20, 47-59	1.3	2
19	EXPERIMENTAL INVESTIGATION OF LUBRICATION FILM FORMATION AT START-UP OF SMOOTH SURFACES. *MM Science Journal*, **2015**, 2015, 825-828	1.9	2
18	Experimental Comparison of the Behavior between Base Oil and Grease Starvation Based on Inlet Film Thickness. *Tribology in Industry*, **2017**, 39, 110-119	1.9	2
17	Analysis of Chemisorbed Tribo-Film for Ceramic-on-Ceramic Hip Joint Prostheses by Raman Spectroscopy. *Journal of Functional Biomaterials*, **2021**, 12,	4.8	2

16	Investigation of the tribological performance of ionic liquids in non-conformal EHL contacts under electric field activation. *Friction*, **2020**, 8, 982-994	5.6	1
15	Abnormal lubricant aggregation on roughness features in a rolling–sliding elastohydrodynamic contact. *Tribology International*, **2016**, 94, 346-351	4.9	1
14	Study of Elastohydrodynamic Film Shape Under Different Directions of Velocity Vectors **2011**,		1
13	Pressure Distribution Within EHD Point Contacts Based on Measured Film Thickness **2006**, 55		1
12	The effect of top of rail lubricant composition on adhesion and rheological behaviour **2022**, 35, 101100		1
11	Experimental investigation of friction in compliant contact: The effect of configuration, viscoelasticity and operating conditions. *Tribology International*, **2021**, 165, 107340	4.9	1
10	Surface Roughness Effects under High Sliding EHL Conditions. *Tribology Online*, **2016**, 11, 34-39	0.9	1
9	Mechanism for Controlling Oil Replenishment in Starved Elliptical EHL Contacts. *Tribology Letters*, **2015**, 60, 1	2.8	0
8	Biotribology of synovial cartilage: Role of albumin in adsorbed film formation **2022**, 34, 101090		0
7	Use of Pyrene for Quantitative Fluorescence Observation of Li-Grease around EHL Contacts. *Tribology Online*, **2020**, 15, 117-125	0.9	0
6	Raman analysis of chemisorbed tribofilm for metal-on-polyethylene hip joint prostheses. *Biosurface and Biotribology*, **2021**, 7, 1-11	1	0
5	Experimental study of central and minimum film thickness in elastohydrodynamic elliptic contacts. *Tribology Series*, **2001**, 39, 495-504		
4	Film thickness interrelationship of base oil and grease lubricated compliant and hard non-conformal contacts. *Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology*,135065012110535	1.4	
3	Surface Modifications and Tribological Effect in Orthopedics Implants. *Advances in Chemical and Materials Engineering Book Series*, **2015**, 193-217	0.2	
2	Study of Scale Effect in a Starved Elastohydrodynamically Lubricated Contact. *Applied Mechanics and Materials*, **2016**, 821, 138-143	0.3	
1	Tribological behaviour of 3D printed materials for small joint implants: A pilot study. *Journal of the Mechanical Behavior of Biomedical Materials*, **2022**, 132, 105274	4.1	